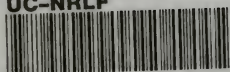


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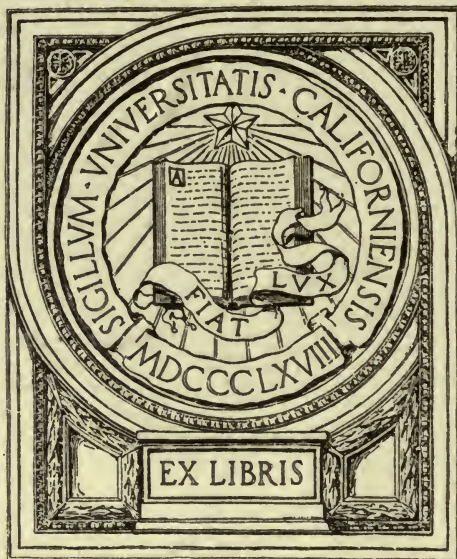


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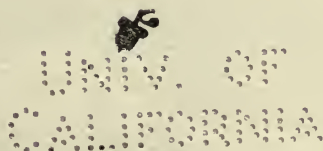
THE GREAT INDUSTRIAL AND COMMERCIAL
CENTER OF THE MISSISSIPPI VALLEY

*An Area with an Annual Tonnage of
Twenty-two Billion Tons*

By

GEORGE E. PLUMBE, A. B., LL. D.

Statistician The Chicago Association of Commerce



Published by

THE CIVIC-INDUSTRIAL COMMITTEE OF THE
CHICAGO ASSOCIATION OF COMMERCE

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PREAMBLE

THIS volume is an enlarged, corrected and amended edition of a similar publication issued two years ago by the Civic Industrial Committee of the Chicago Association of Commerce.

As far as possible it includes the latest data relating to manufacturing in Chicago which will be fully embodied in the reports of the Thirteenth Census, which was taken subsequently to the publication of the former volume.

In the departments of trade, commerce, finance, navigation, transportation efficiency and other subjects, the statistics are brought down to the present year. There is no exaggeration, the simple facts being sufficiently marvelous.

Chicago has made rapid advances in every department of its activities, as well as in growth in population, in the past two years. Its supremacy as the great industrial, commercial and financial center of the Mississippi valley—an area exceeding in extent five times that of both France and Germany—is assured beyond all question.

G. E. P.

I.

Chicago—Its Location and Growth

The story is told that during the presidency of General Washington he held a consultation with General Wayne, commanding the Army of the United States, for considering the best means for affording the settlers protection against Indian raids and the frontier from incursions by the British by way of Canada and the Great Lakes. While examining the map the president placed his finger at the mouth of Chicago river and said: "There will eventually be the centre of population, commerce and trade of the continent." Whether or not this story is authentic, it is a fact that this point was selected by him and General Wayne as the site of the fort which was erected in 1803 during Jefferson's administration, while General Dearborn was Secretary of War, burned in 1812, rebuilt in 1816, and was occupied as a military post until 1837, the year Chicago was incorporated as a city. Early explorers like Nicolet, in 1634, and Joliet and Marquette, some forty years later, had the foresight to comprehend the natural advantages that clustered about the mouth of the sluggish stream, and the importance of their development as a highway of commerce between the Gulf of Mexico and the Gulf of the St. Lawrence. That Washington knew of, and was influenced by, the reports of the early explorers can hardly be questioned.

In 1809, when Illinois was organized as a territory, its northern boundary was projected due west from the southern extremity of Lake Michigan to the Mississippi river, which line crossed the Des Plaines river near Lockport and put the mouth of the Chicago river within the limits of Wisconsin. When, however, the territory of Illinois applied for admission to the Union as a State, Nathaniel Pope, who was the territorial delegate in Congress from Illinois, persuaded Congress to shift the northern boundary of the State to its present location, in order that Illinois should have a coast line on Lake Michigan, and also that the great water route from the lake to the Mississippi, which had even then been proposed and made the subject of congressional legislation, should be included within the confines of a single State. This argument resulted in the location of the northern boundary as it exists at present, in spite of violent and belligerent protest and opposition of Wisconsin.

There is nothing anomalous in the fact that in every civilized country on the globe, Chicago, as a city, is regarded as the marvel of the century. That a municipality not yet 75 years of age should have oustripped in growth of population; in the massiveness and solidity of its commercial buildings; in the extent and variety of its industrial development; in the number and stability of its financial institutions; in the magnitude and high standing of its schools, colleges and universities; in the matchless reach of its railway facilities; in the importance of its trade and commerce; in the beauty and extent of its parks and boulevards; in the abundance of every natural product that makes living a comfort and delight; in the resolute and energetic character of its inhabitants which enabled them to recover from the disastrous conflagrations of 1839, 1849, 1857, and that of 1871, which swept away \$200,000,000 worth of property; that Chicago should have accomplished all of this, and, within the lifetime of many of its citizens, become the fourth in size of the world's civilized cities, surpassing many of those that have been, for centuries the commercial and financial centers of the world's trade, industries and wealth—this makes Chicago the marvel of all the ages.

And yet Chicago is only in its infancy—its greatness is beyond the power of anticipation.

There was no chance or fortunate circumstance that determined the location of a great city near the southern extremity of Lake Michigan. The power that created the chain of the Great Lakes and made the Mississippi Valley, covering the vast expanse of territory between the Allegheny and Rocky Mountains, with 16,000 miles of navigable internal water courses, designated the center of that region as the site of a great metropolis. The location of the city was one that no person of reasonable judgment would have selected for such an occupancy. With bluff shores along the lake for miles North of the city, Chicago was placed in a sedgy marsh, the chief products of which were chills and fevers, avoided even by the nomadic bands of Pottowatomies who pitched their tepees on the elevation west of the mouth of the estuary that is now the Chicago river.

The French voyagers, Joliet, La Salle and Marquette, 240 years ago read the prophecy which time has since verified, and each year following their day the necessity for a metropolis where Chicago now stands has been emphasized. Chicago is the product of necessity having for its basis the needs of a developing continent. In response to that exigency Chicago has grown in spite of obstacles and calamities such as no city on the globe has been forced to contend against.

The voluntary movement of the people has been invariably governed by natural laws. They have moved from East to West and very rarely departing from the isothermal lines of their places of nativity. The tide of emigration has been retarded here and deflected there, as the result of easily discovered causes, but the advance of people in their evolution towards civilization has been towards the setting sun. The trend of population in the United States for one and a half centuries has closely followed these laws of racial movements.

In 1790 when the first census of the United States was taken the center of population was a point twenty-three miles East of Baltimore, but with each succeeding enumeration this point has moved steadily westerly at an average rate of forty-eight miles for each decade until the last census (1910) it reached a point in the western part of the city of Bloomington in Monroe County, Indiana. The tenacity with which this center of population has held fast to the thirty-ninth parallel of latitude is remarkable. Since 1790 it has varied not to exceed twenty-one miles from that line. This movement of population is almost unerringly towards the central point of the continental area of the country, which is in Northern Kansas, ten miles North of Smith Center, county seat of Smith County, fifty-one miles North and 657 miles West of the present center of population, which is almost forty miles East and 190 miles Southeasterly from Chicago. The completion of the Erie Canal, for the 387 miles between Buffalo and Troy, in 1826, very greatly stimulated the Western movement of an agrarian population from the rugged hills of New England and Pennsylvania to the fertile prairies of Illinois; the movement naturally taking the waterways as presenting the course of least resistance. This concourse was made up of English, Celts and Teutons, with a sprinkling of Scandinavians, which made the best material in the world out of which to form a state or municipal government.

The crops grown on these prairies demanded an outlet to the Atlantic Seaboard, the only possible market for the products of the West and the only section from which the sturdy settlers could procure the fabrics, wares and provisions which they were unable to produce at home. No one influence contributed so greatly to the development of the West and its growth of population as the invention of agricultural machinery, which not only increased the volume of farm products, but relieved a large number of the people to enter the many gainful pursuits which were demanded by the rapidly increasing population. For centuries wheat had been the principal

article of food and during all these years the only means of planting the grain was by hand sowing, the means of harvesting the crop was the straight knife, the reaping hook and the cradle, and the implement for separating the berry from the stalk was the flail. A century ago it required over 90 per cent of the population to raise the food for the people. Progress was at a standstill. A people cannot build cities, canals and railroads so long as nearly all their energies and time are demanded for digging from the soil barely enough food to sustain life, nor would it require railroads and canals to transport the small yields of grain to a market. But the harvesters invented in 1831 and first manufactured in Chicago in 1841 in which year two reapers were sold, and seven were disposed of the year following. The invention of the gang plow, the threshing machine, the grain drill and seeder, the manure spreader and others soon followed. The result is that today there are manufactured in Chicago annually 360,000 reapers and other labor-saving appliances in proportion, so that now only 33 per cent of the population is required to do what a century ago demanded the labor of over 90 per cent of the people. The labor now required to raise a bushel of wheat, reduced to time, is about ten minutes. These improved methods of agriculture did more to stimulate immigration to the west, to necessitate the construction of railroads and canals for the movement of the products of the soil and to the erection of industrial establishments than any or all causes combined. Among other facilities for transportation, the Illinois and Michigan Canal, from Chicago to Peru, was built at a cost of \$6,507,681 and opened for traffic April 10th, 1848. As to the value of this canal Mr. Brainerd, Canal Commissioner of the State, reported in 1885, that during the 37 years that it had then been in operation it had saved the people of Illinois \$180,000,000 in freight charges alone.

Moses Kirkland in his "History of Chicago," page 119, says: "At the beginning of that year (1848) Chicago had neither railroads nor canal nor any other means of communication with the outer world than by wheeled vehicles and vessels on Lake Michigan. . . . It could boast of no sewers nor were there any sidewalks except a few planks here and there, nor paved streets. The streets were merely graded to the middle, like country roads, and in bad weather, were impassable. A mud hole deeper than usual would be marked by sign-boards with the significant notice thereon, 'No bottom here, the shortest road to China.' There was no gas, and water continued to be supplied from carts by the bucketful. There were no omnibuses,



*Passenger Terminal, Chicago
Chicago and North Western Railway*

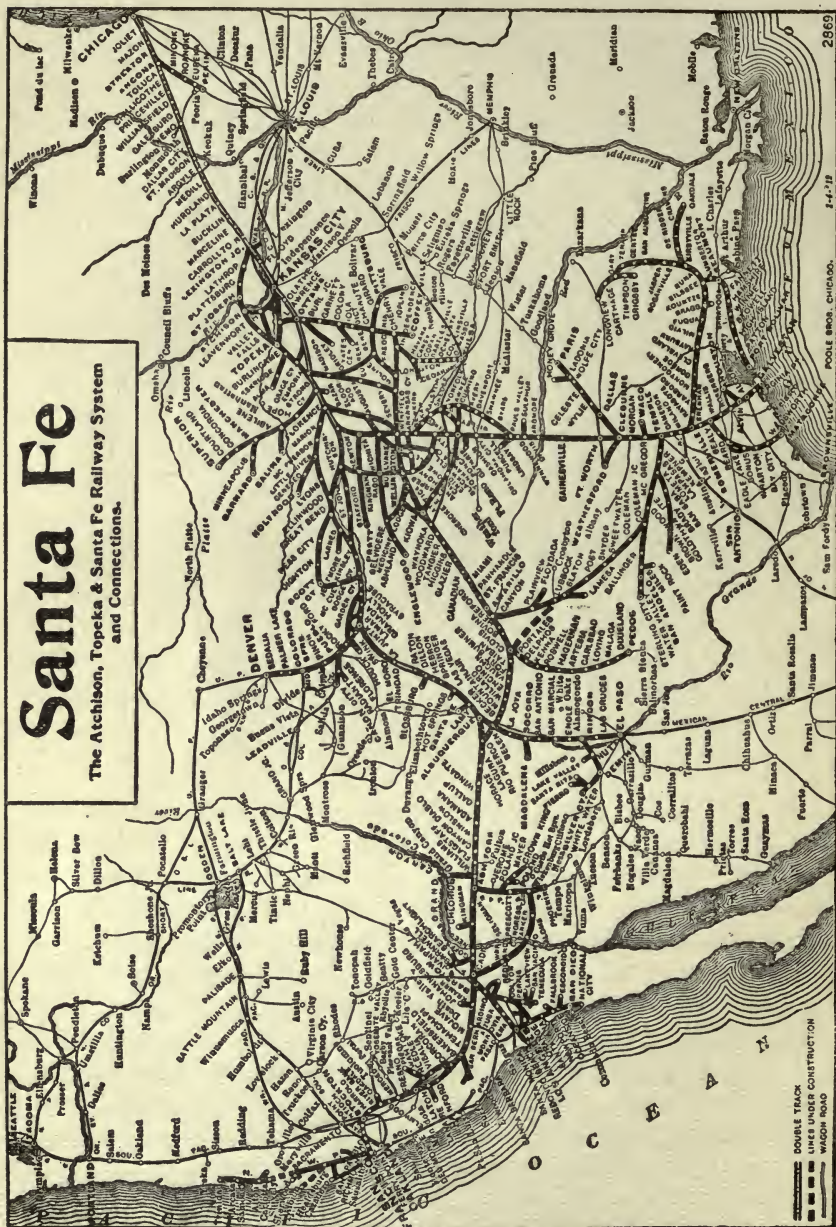
cabs, nor horse cars, nor cars of any kind, much less telegraph and telephones. Wabash Avenue, between Adams and Jackson Streets, was regarded as out of town, where wolves were occasionally seen prowling about."

The era of railroad construction in the West immediately followed this increased population and the multiplication of industrial enterprises. The Galena and Chicago Union Railroad was opened to Elgin in January, 1850; to Belvidere, December 3rd, 1852, and to Freeport in 1853. The Chicago and Burlington Railroad was opened to Burlington, Iowa, in 1855, and to Quincy, Ill., in 1856. The first road to enter Chicago from the East was the Lake Shore and Michigan Southern in February, 1852, and the Michigan Central Railroad in May of the same year. Next came the Chicago, Rock Island and Pacific, which was completed to Joliet in 1853 and to Rock Island in 1854. In rapid succession came the Chicago and Alton, the Chicago and Milwaukee, and the Pittsburgh, Ft. Wayne and Chicago.

The manufacturing industries in Chicago in 1848 were still in their infancy and the value of the entire product in 1850 was returned at \$3,562,583 on an invested capital of \$1,086,025. During the next six years the value had expanded to \$15,513,063 on a capital of \$7,759,400, while the number of employes increased from 2,081 to 10,573. The panic of 1857 was disastrous to Chicago and no improvement was shown until 1860, when under the stimulus of the war the growth was phenomenal.

In 1910 the industrial development of Chicago had so enlarged that the establishments numbered 9,656, capitalized as \$971,841,000; employing 293,977 wage-earners who received in wages \$174,112,000, and turned out as finished product goods valued at \$1,281,171,000. The wage earners in Chicago's industrial plants in 1910 exceeded the total population of either Jersey City, N. J.; Kansas City, Mo.; Louisville, Ky.; Indianapolis, Ind.; St. Paul, Minn.; Seattle, Wash.; Denver, Colo.; Portland, Ore.; Providence, R. I., or Rochester, N. Y. If we add to this the number of those engaged in the various trades—carpenters, masons, blacksmiths and the like—clerks in public and private offices and stores, railroad employes and the vast army of day and common laborers, some idea may be acquired of the present industrial activity of this city.

The following table shows the growth of the city in population. In 1823 Chicago is described as "a village in Pike County containing



12 or 15 houses, and about 60 or 75 inhabitants." The first government census was taken in 1840, which gives the earliest official data as to population.

1835*	3,297	1880	503,185
1840	4,470	1890	1,099,850
1850	29,963	1900	1,689,575
1860	109,260	1910	2,185,283
1870	298,977	1912	†2,284,378

*State Census.

†Estimated.

Building operations have not fallen behind in increase of population. The following table shows the number of buildings, the frontage and cost of construction for each year since 1900:

Year	Number of Buildings	Feet Frontage	Cost
1900	3,554	100,056	\$19,100,050
1901	6,035	170,644	34,911,770
1902	6,074	186,609	48,070,395
1903	6,135	174,932	33,645,025
1904	7,132	203,785	44,596,090
1905	8,337	243,485	63,455,020
1906	10,447	276,770	64,298,335
1907	9,338	253,993	59,065,080
1908	10,771	291,655	68,204,080
1909	11,241	310,351	90,509,580
1910	11,409	327,250	96,932,700
1911	11,106	299,032	105,269,700

BUILDINGS ERECTED IN 1910 AND 1911—KIND,
NUMBER AND VALUATION

Kind of Building	1910		1911	
	No.	Valuation	No.	Valuation
Residences	3,075	\$ 8,379,300	2,989	\$ 8,535,500
Flats	4,362	34,372,500	4,599	36,401,000
Stores	1,327	6,599,700	1,093	7,593,000
Factories	157	5,816,000	143	6,487,000
Warehouses	98	4,951,000	74	3,669,000
Office Buildings	45	16,461,500	48	23,101,000
Churches	32	1,058,500	29	742,500
Theatres	42	1,091,500	65	1,261,500
Schools	35	3,354,000	20	2,400,000
Stations and depots	10	256,500	7	138,000
Hospitals	6	277,000	7	702,000
Hotels	5	330,000	13	4,190,000
Garages	23	356,000	34	350,000
Miscellaneous	2,192	13,629,200	1,985	9,699,200
Total	11,409	96,932,700	11,106	\$105,269,700

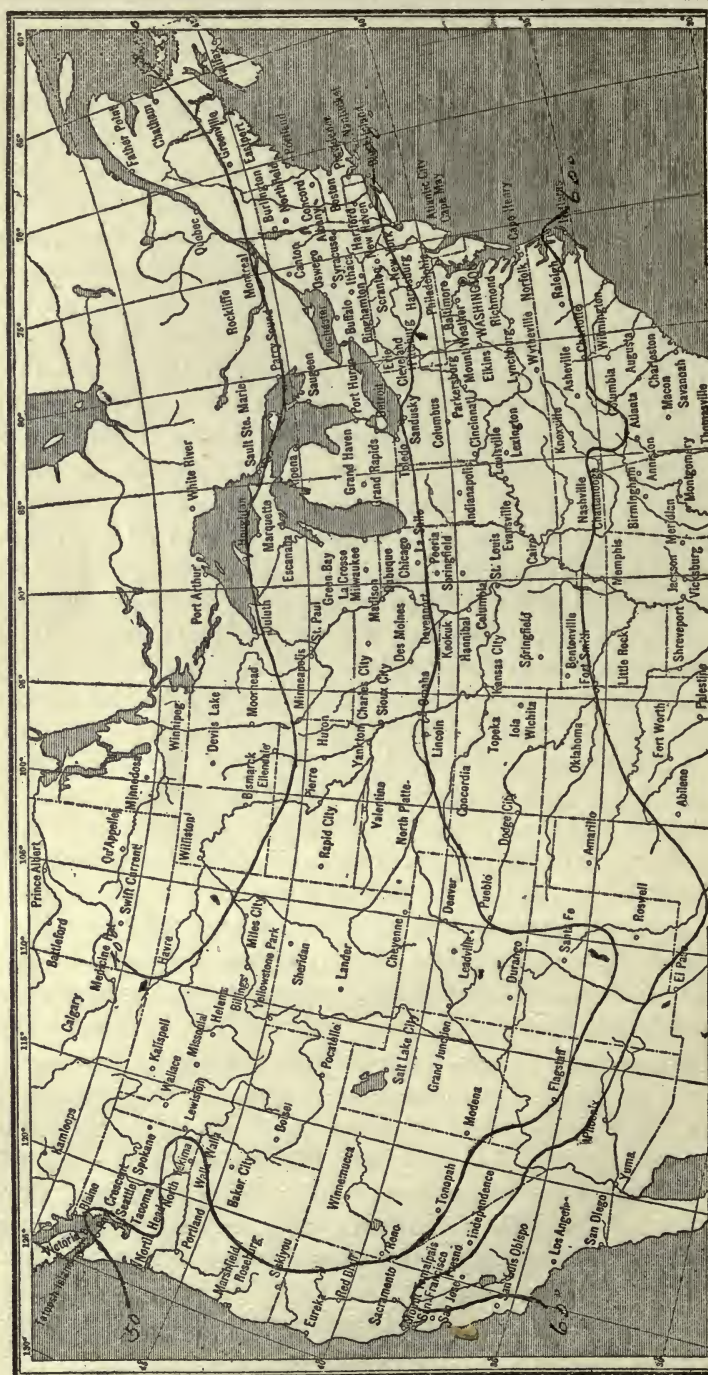
II.

Chicago—Its Climate and Health

Climate is the principal determining factor that directs and controls trade and commerce, because of its close relation to public health and mortality. Climate and weather are by no means synonymous terms. Climate "is the combined average result of varied conditions of atmosphere as regards temperature and moisture," while weather denotes "the purely local and temporary conditions of temperature and moisture at any given place and time." Both trade and commerce have invariably followed the line of equable temperature. Isotherms, or lines drawn across a continent through places having the same average mean temperature, vary greatly as compared with parallels of latitude. For instance, a line drawn through places having a winter, or January, mean temperature of 40 degrees passes from Behring Sea through Alaska and the southern section of British Columbia, entering the United States near Medicine Hat, and is deflected so as to pass through Duluth, Sault Ste. Marie, Georgian Bay and Montreal to the Gulf of St. Lawrence. The line of 50 degrees, or average annual mean temperature,—the line of equable climate—starts at Puget Sound, is deflected to the South by the Cascade Mountains and Sierra Nevada range, which turns the warm currents of the Pacific southerly; passes through New Mexico, south of Santa Fe; makes a sharp detour around the southern extremity of the Sierra Nevada range to the north nearly to Denver, thence east through Omaha, Davenport, La Salle (just south of Chicago) to Toledo thence almost due east, reaching Long Island Sound midway between New York and New Haven; thence following the Atlantic Gulf Stream, to the British Isles, across France, Germany, Austria and Asia to Northern Japan.

Economically significant places

It is interesting to note the influence of the warm currents of the Pacific and Atlantic oceans upon the climate of the continents. The current that flows from the Southern Pacific north is deflected to the east by the Aleutian Islands to the Alaskan coast, the result being that the average mean temperature of Sitka, Alaska, is exactly that of St. Paul, Minn. On the Atlantic coast the Gulf stream gives the British Isles the same climate that Massachusetts enjoys, although they are due east of the barren coast of Labrador. Without that stream those islands would be ice bound eight months of the year and incapable of being the abode of a civilized people.



Isotherms of 40, 50 and 60 Degrees

It is true that man can make his home in any zone, but the regions of low temperature are either uninhabited or sparsely settled like Labrador, while those of low temperature are not so densely populated as the temperate zones. The climatic conditions in New England, situated between the low temperature of Northern Canada and the warmer area south of the Ohio river and Chesapeake Bay, was a recognized power in stimulating the early economic development of the thirteen colonies which prepared them for the conflict that resulted in the political autonomy of the United States.

Climatic conditions also produce vast differences in national character. The people of Southern China are more irresponsible and inconstant than their brothers in Northern China; the Southern Russian is more flippant than the same race further north; the same distinction is noticeable between the people of Northern and Southern Germany, and between the Italians of the Alpine slope and those in Southern Italy. In our own country the people of the Northern states are more energetic and progressive than those of the milder sections of the South, and even workmen going from the North to the South soon experience the depressing effect of short, mild Winters and long, hot Summers. The iron and steel industries located at Birmingham, Ala., find that these climatic conditions reduce the efficiency of their skilled labor, which is mainly imported from the Northern states.

That Chicago is located on the line of equable temperature, where extremes are less frequent, rain fall ample and where all varieties of industry can be carried on with the minimum of disturbance from climatic influences, is the prime factor in its astonishing development as the industrial and commercial center of the country.

It is the line along which the leading markets of the world are located. It is also the region where the death rate is lowest, where pestilence is less frequent and where the soil gives the greatest variety of products. In the United States all the area having a population of from 45 to 90 per square mile is located along this line and east of the 95th Meridian, while west of that parallel such density is attained only in isolated and small spots, like the vicinity of Portland, Oregon, and San Francisco, California, with a small area at Denver, Colorado.

Most of the manufacturing in the United States is carried on in the northern half of the section east of the 90th Meridian, and north of the 37th degree of north latitude, which is due chiefly to larger population, great variety of food products grown, the profusion of raw materials and uniform fertility of soil, with adequate rain fall and an

equable temperature. South of that line industrial enterprise has been principally confined to the manufacture of home grown products, like sugar, from the sugar cane, turpentine, lumber and semi-tropical fruits and vegetables, until in recent years, the people of that section have, with considerable success, encouraged the spinning and weaving of cotton fabrics and the working of their coal and iron mines. Industrial enterprises have otherwise very generally remained stationary while in the north they have moved westward and increased with the population.

A few years ago more than one-half of the implements used in agriculture in the United States, were made in New York and Ohio, but the movement of population to the West and the resultant growth of agricultural development therein have carried this industry westerly with such progress that today nearly one-half of the farming implements produced in the entire country are made in the state of Illinois. They can be made cheaper here than in the East and the saving in transportation to meet the demand nearer the center of population is an important item in establishing the price to the consumer for such machinery and implements.

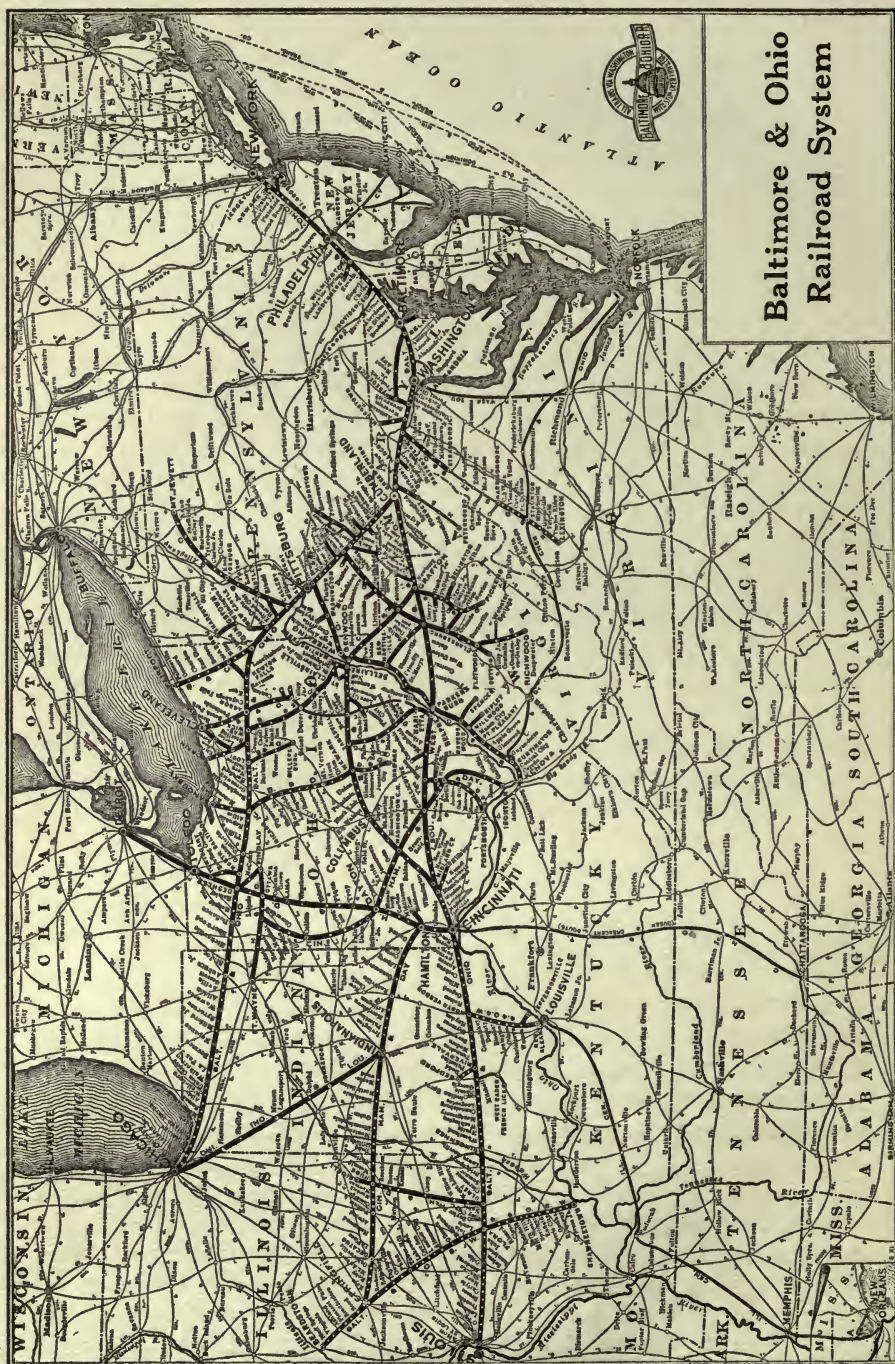
Another influence that has stimulated the growth of manufacturing in the West is the natural tendency of immigration from Northern Europe to come to this section on landing in the country. Races are governed in their migrations by exactly the same laws that control the distribution of plants and rarely is either found far north or south of the climatic zone in which they originated. Only about five per cent of the population of the United States are located off their native isotherm. A New Englander, Swede or Norwegian is about as rarely to be found in Texas as is a Carolinian, Frenchman or Spaniard is to be met in Minnesota or North Dakota. Hence the colonists from Northern Central Europe have come directly West. The Swedes, Norwegians, Germans, English, Scotch, Irish, and all the like have settled in the North Mississippi Valley rather than at the South. This natural movement has been encouraged by the fact that the ports of entry for commerce between the United States and Europe are along the North Atlantic coast. The inlets upon which these ports were located, between Maine and Virginia, and particularly in Massachusetts, New York, Delaware and Chesapeake Bay, being the best harbors and nearest to foreign markets, have controlled not only the movements of goods and merchandise of various kinds, but also the transit of passengers between the two continents. This has given the West the best, most vigorous and laborious foreign population,

which came to America for homes, and has accomplished a vast deal in accelerating the industrial growth of the West.

While it is an established fact that climate and a temperature that is not subject to violent and sudden changes, are most conducive to public health and low rate of mortality, the study of the relations between the two have considerably changed and modified the conclusions formerly regarded as scientifically established. The old theory held that the weather of the year was made up of several distinct climates, differing from each other according to temperature and moisture and their relations to each other, might be divided into six distinct climates, characterized respectively by cold, cold and dryness, dryness with heat, heat, heat with moisture, and cold with moisture. The mortality from all causes and in all ages shows a large excess above the average from the middle of November to the middle of April, from which it falls to the minimum in the end of May; then it slowly rises, and, on the third week in July it suddenly shoots up to almost as high as the winter maximum of the year, at which it remains till the second week in August, falling thence as rapidly as it rose, to a second minimum in October.

The deductions from this theory was that cold and moist weather is attended with a high death rate from rheumatism, heart diseases, diphtheria, measles; cold weather, from bronchitis and pneumonia; cold and dry weather, from brain diseases, whooping cough and convulsions; warm and dry weather, from suicide and small pox; hot weather, from bowel disorders; and warm moist weather, from scarlet and typhoid fevers.

The study of sanitary conditions, mode of living and the use of uncontaminated water for domestic purposes and pure air in dwellings, has very greatly modified preconceived opinions. In a general way it may be regarded as established, that the indirect effects of hot and cold weather are much more important factors in the death rate than the direct effects. For instance, the impure-air diseases, pneumonia, bronchitis, tuberculosis and influenza, are much more active in cold weather than in warm weather—not directly caused by the cold, but rather indirectly, by reason of people shutting themselves up in their houses and work-places, sacrificing necessary ventilation to the maintenance of a comfortable temperature. The breathing of vitiated air means the lowering of one's disease-resisting powers. The practice of breathing bad air is much more general in winter than at any other season of the year, therefore, our physical conditions are then the lowest and the death rates from air-borne diseases are then the highest. Then, in hot weather, the diarrheal diseases kill more people,

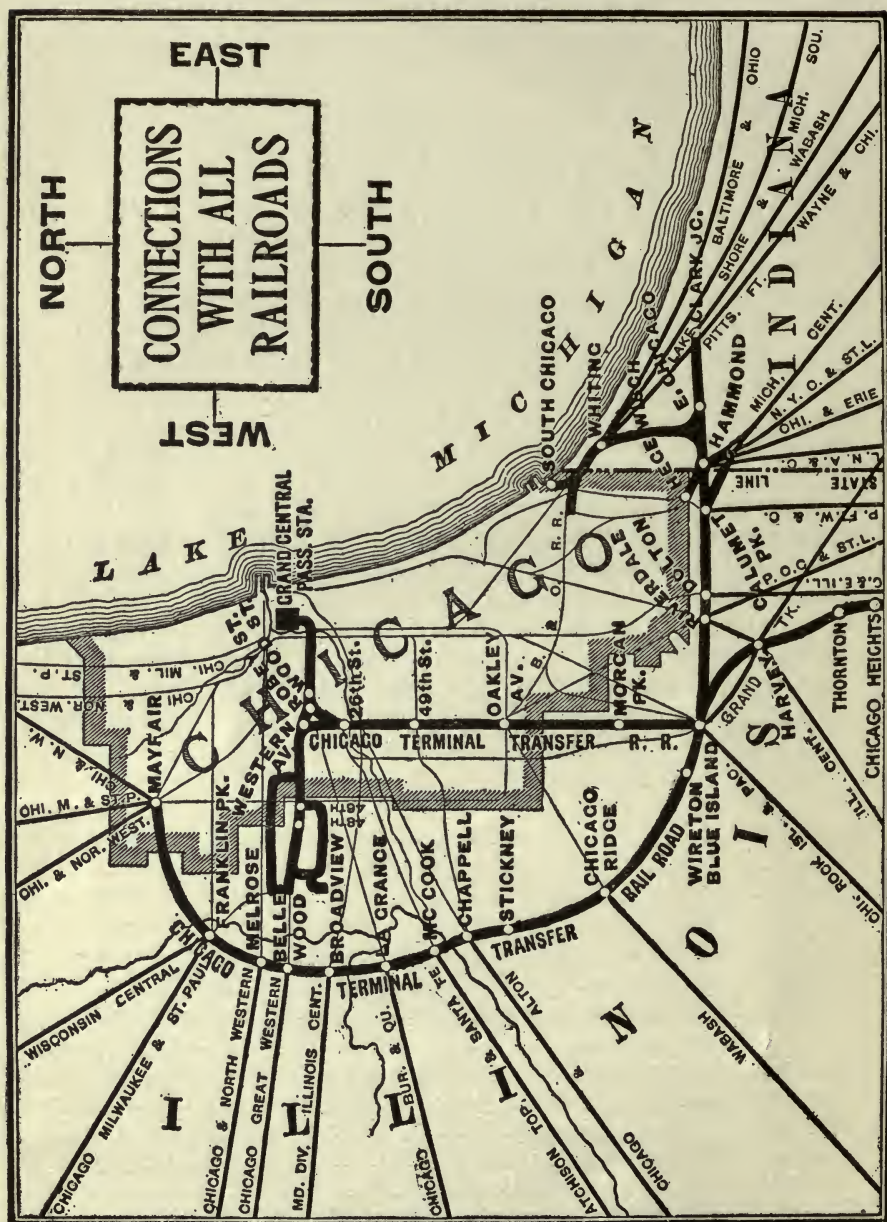


chiefly babies, than any other cause of death—not directly, but indirectly through the effects of the heat upon the babies' food. Aside from these two important groups of disease we have made no extended studies of the relationship between the prevalence of certain diseases and meteorologic conditions.

There are local conditions in Chicago that contribute in a very marked degree to the salubrity of the city by modifying its extremes of temperature in both the summer and winter months. Immediately east of the city is Lake Michigan, having an area of 22,450 square miles, on the shore of which the city is located. This immense body of water is without current except as the flow of the water is influenced by the winds. In the summer the warm breezes are tempered in their passage over the cooler waters of the lake and the local temperature is thus so modified that a day with the mercury above 90 degrees is a rarity. During the fall months the waters of the lake give to the atmosphere the heat that they have absorbed during the summer which affords the city a long and warm autumn, a degree of temperature much like the Indian Summer of New England, which frequently continues until the latter part of December. Cold and blustering days will intervene between October and Christmas but rarely for more than two or three in succession. This shortens the period of physical disorders, of which rheumatism and bronchitis are types and which are peculiar to the autumnal and winter months of some other sections of the country. At this season of the year the rain falls are minimum, the precipitation for the last 38 years showing that most rain falls in the months of May, June, July and August and the least in October, November, December and February, the average for the year being 33.70 inches, which is by no means excessive. This condition keeps the air cool in summer and dry in winter. To this local modification of the climate is due the fact that while at some manufacturing centers, in such industries as develop high degrees of heat, like furnaces and foundries, labor has frequently to be for a time suspended during the heated term, yet it is never necessary to do so in this city. It is never too warm in this city to carry on any kind of labor. At the same time it is rare indeed that out of door labors have to be discontinued because of the low temperature.

In the conservation of the public health it became imperative that some other disposition of the sewage of the city should be made than discharging it into the lake, the only source of water supply for domestic purposes. The Sanitary District was organized in 1889, and contains at present an area of 358 square miles, with a population of fully two and a half millions of people. The trustees were authorized to open a canal to carry the waters of the Chicago river into the Desplaines to be discharged into the Mississippi. This canal was opened across the divide, 28 miles to Lockport, and varies in width

MAP OF THE BALTIMORE & OHIO CHICAGO TERMINAL RAILROAD CO. AND CONNECTIONS



from 162 to 290 feet with a minimum depth of 22 feet and has a flow of 300,000 cubic feet of water per minute. It was completed in January, 1900, and has cost about \$66,000,000. This canal entirely reverses the current of the Chicago river, making it an outlet for the lake instead of a feeder, and discharging the sewage of the city into the Gulf of Mexico instead of emptying it into Lake Michigan from which the city takes its domestic water supply. The effect of this improvement was almost instantaneous and miraculous. Typhoid fever, smallpox and all diseases occasioned by polluted and impure water became, as compared with former conditions, almost a rarity which more than anything else has tended to make Chicago the city with the lowest death rate of any important municipality on the continent.

It is not unnatural that, with favorable climatic conditions and the efforts that have been made so successfully to eliminate the subtle dangers to public health that result from defective sewerage and impure water, the death rate in Chicago should be lower than that of other large cities, both foreign and domestic, which have a more variable climate and are not provided with the modern sanitary expedients that are the safeguards of public health. As to American municipalities the latest and most reliable statistics upon public health, and the rate of mortality, that are attainable are those given by the government, which show the death rate per 1,000 of population in American cities having a population of 350,000 or more, for the four years between 1908 and 1911, as follows:

City	1908	1909	1910	1911*
Chicago.....	14.6	14.7	15.1	14.5
New York.....	16.3	16.	16.	15.1
Philadelphia.....	17.3	16.4	17.4	16.5
St. Louis.....	14.7	15.8	15.8	15.7
Boston.....	18.3	16.8	17.2	17.1
Baltimore.....	19.	18.7	19.2	18.4
Pittsburgh.....	17.3	15.8	17.9	14.9
Cleveland.....	13.3	12.9	14.3	13.7
Buffalo.....	15.3	15.2	16.3	14.5
San Francisco.....	15.5	15.	15.1	.....
Detroit.....	13.7	14.	15.9	15.3
Cincinnati.....	18.	16.5	17.4	16.4
Milwaukee.....	12.7	13.7	13.8	.....
New Orleans.....	22.3	20.2	21.3	.....
Washington.....	19.1	19.	19.6	.....

*Data for years 1908, 1909 and 1910 are from Census Bulletin 109. That for 1911 from local reports as far as obtainable.

It is worthy of note that in no part of the north temperate zone have originated any of those epidemics like cholera, the bubonic plague, sleeping sickness, pellagra, yellow fever, or other plagues that have proved so destructive of human life and demanded the most drastic sanitary measures to check or exclude them. They have almost invariably originated in either higher or lower latitudes. Chicago, because of its equitable climate, its exemptions at all seasons of the year from extremes of temperature, has acquired a justly earned reputation as a "Summer Resort." The report of the Government Weather Bureau in this city fully justifies any claims in that direction which may be made. The following table shows the extremes of temperature in Chicago each year during the last forty, between 1871 and 1911 inclusive, from which it appears that only once in that time has the thermometer registered over 100 degrees and only in six winters has a record been made below zero. During that period the highest monthly mean temperature was 77.4 degrees and the lowest was 12 degrees.

Month	Maxi- mum	Year	Day	Mini- mum	Year	Day	Highest monthly mean	Year	Lowest monthly mean	Year
January.....	65	1876b	1	-20	1897†	25	39.8	1880	12.0	1893
February....	63	1880*	26	-21	1899	9	39.0	1882	14.6	1875
March.....	81	1910	27	-12	1873	4	48.6	1910	28.9	1877
April.....	88	1899	29	17	1875§	17	53.4	1896	38.8	1874
May.....	94	1895a	31	27	1875	2	65.9	1911	51.4	1882
June.....	98	1872c	19	40	1894†	6	72.4	1911	61.2	1903
July.....	103	1901	21	50	1873°	19	77.4	1901	67.0	1891
August.....	98	1874†	11	47	1887	26	76.3	1900	67.6	1890
September..	98	1899	5	32	1899	30	70.6	1908	59.8	1888
October.....	87	1897	15	14	1887	25	61.4	1900	46.2	1895
November..	75	1888	1	-2	1872	29	48.5	1909	31.6	1880 j
December...	68	1875	31	-23	1872	24	43.4	1877	18.4	1872

*Also in 1876, 10th day. †Also in 1881, 4th day; 1887, 10th day; 1896, 8th day.
 ‡Also in 1875, 9th day. §Also in 1881, 1st day; 1879, 3rd day. tAlso in 1875,
 22d day. °Also in 1895, 9th day. jAlso in 1872. bAlso in 1909, 23rd day.
 aAlso in 1911, 26th day. cAlso in 1911, 9th day.

During the last 40 years the average mean temperature has not exceeded 50 degrees nor been below 45 degrees, while the rain fall has not exceeded 43.22 inches, nor been below 26.14 inches.

These facts and conditions explain why the mortality per 1,000 of population is so low, being in 1910 15.14, having declined very steadily and almost uniformly from 27.64 in 1872. This is due chiefly to the diminution of deaths from what are called preventable diseases, which include diphtheria, diarrheal diseases, malarial fevers, measles, pneumonia, scarlet fever, smallpox, tuberculosis, typhoid and typhus



fevers, whooping cough and some others, which declined from about 21. in 1866 to a fraction over 6.50 in 1909. In what man has been able to do towards making Chicago the most salubrious large city in this country he has been assisted by natural causes, the chief of which is the proximity of Lake Michigan, the breezes across which are tempered in the Summer by their passage over the cooler waters of the lake and moderated in the Winter by the warmth accumulated by the water during the Summer months.

The subject of public health is one that is of vital importance, not only to the manufacturer, who seeks a healthful climate in which to reside with his family, but also to him as an employer of labor. Epidemics are practically unknown, and while other cities are waging a constant warfare against zymotic disorders, occasioned by contaminated water and evaporation from unsewered soil, Chicago's exemption, by reason of millions of dollars expended for sewerage and to secure pure water for domestic purposes in the conservation of public health, is something of which the city is proud and of which it has reason to be boastful.

Children will contract measles, mumps and other ailments to which they are specially subject, but the closing of any one of our public schools on account of the prevalence of such outbreaks is almost unknown.

An employer of labor who is practically exempt from sickness among his employes has an asset in business that is of great value even if it does not have an entry on the credit side of his ledger. When the shops of other cities are closed because of epidemics from any cause, it is a source of great satisfaction to the business man of Chicago that he is uniformly exempt from such misfortunes and is located in the healthiest large market on the globe.

III.

Chicago—As a Central Market

The geographical center of the continental portion of the United States is latitude $39^{\circ} 55' N.$, and the longitude $98^{\circ} 50' W.$, the point being ten miles north of Smith Center, the county seat of Smith County, in Northern Kansas. The center of population is latitude $39^{\circ} 10' 12'' N.$ and longitude $86^{\circ} 32' 20'' W.$, in the city of Bloomington, Monroe County, Indiana. The former point is therefore approximately 675 miles west and 51 miles north of the latter, with Chicago located a little north of the center of population.

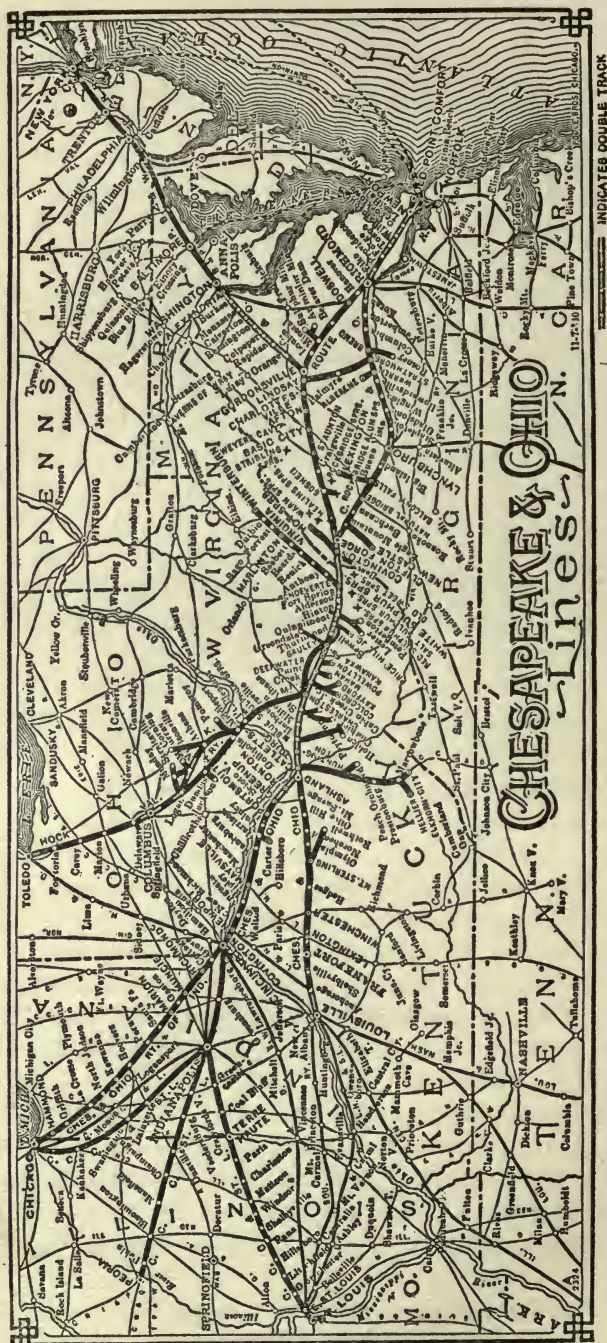
The movement of the population of the country has been significant of its development, increase in wealth, trade and commerce. While the movement of the center of population westward has been due to the settlement of the West, its movement north and south has closely corresponded with the acquisition of new territory. Thus the annexation of Louisiana caused a slight southward movement between 1800 and 1810, rather more than offsetting the increase of population in the North.

In the next decade the settlement of Mississippi, Alabama and Eastern Georgia again pulled it a little southward. Its most decided southward movement was between 1820 and 1830, due to the annexation of Florida and the great extension of settlement in Alabama, Louisiana, Mississippi and Arkansas. From 1830 to 1840 rapid settlement in the prairie states and in Southern Michigan and Wisconsin turned the tide northward, but in the next decade the annexation of Texas brought a change to the southward.

In 1860 another slight northward movement was recorded and in 1870 a more decided movement in the same direction of 13.3 miles was shown. In 1880 the census showed a decided movement southward in consequence of the partial recovery of the South and the better enumeration of the negroes.

In 1890 foreign immigration and rapid settlement of the West almost exactly offset the southward movement of the preceding decade. In 1900 the settlement of Oklahoma, Indian Territory and Texas is shown to have more than counterbalanced the increase in Northern population to the extent of a southward movement of about three miles.

During the last decade the increase in population of New York, Pennsylvania and other Northern states almost exactly balanced the



increase in Texas, Oklahoma and Southern California. The westward movement was largely due to the great increase in population of the Pacific states, which was given the greater weight in changing the center by their greater distance from it. Thus the combined population of San Francisco, Portland, Seattle and Sacramento—906,016—had as great influence on the center of population as that of Philadelphia, Boston and Baltimore combined—2,778,078.

The necessity for markets is fixed by the inexorable laws of trade and commerce and these are determined by movements of population, the development of agriculture and the industrial growth of the territory. In the early history of the country, when its population was confined to a narrow fringe along the Atlantic seaboard, Philadelphia was the principal market of the entire country from Savannah to Boston. The development of manufacturing in the New England states was a magnet strong enough to attract trade in that direction, northerly, and New York early became the larger market. The maritime advantages of New York over Philadelphia made the former city the center of the coastwise trade of the new nation.

New York soon became the financial center of the country and the southern cotton grower bought his goods where he sold his staples. The one branch of business greatly assisted in the growth of the other.

With the development and prosperity of the West the idea of going 1,000 miles to a market was not to be thought of and local interests, while they did not change the direction of commerce, did demand a market nearer home where commodities could be exchanged for the products of the soil.

There are several factors that fix the locus of a general market, the more important being, proximity to raw materials, means of transportation, favorable climate, population, financial resources, availability of power, abundance of labor and accessibility. Population furnishes the consumers and producers; products of labor supply the commodities to be bought and sold; financial resources provide the medium of exchange between seller and buyer and accessibility enables both the buyer and seller to reach the market and the producer to place the results of his industry where they can be inspected and offered for sale. In proportion to the dominance of these essentials the market will be great or small.

The expansion of population in this country implies of itself, a greater and stronger degree of concentration among the inhabitants which means, also, contraction within a smaller compass of manufacturing and this essential in determining the modern markets of

the world. This must be the case, invariably, because increase of population and concentration of industries always stimulates the enlargement of factories; the introduction of more complicated and costly machinery; improved facilities in handling and transporting manufactured products, all of which tend to lessen the cost of manufacturing. This attracts capital, improves and multiplies means of transportation, encourages trade and determines the location of a permanent market.

This condition is still more influential in its effect upon the character of the market itself. As the market grows there is a demand for more complicated machinery, more highly skilled labor and a wider range of manufactured goods.

This is very closely the condition of circumstances that materially contributed to the making of Chicago the great central market it has now become. Take the manufacturing of iron and steel. With the demand of a rapidly growing population at the West came the imperative demand for the construction of railways. The blast furnaces made steel from which Bessemer steel rails were rolled, the Bessemer plants gave way to the open-hearth process, which turned out a better product. Then the car wheel industry located its works near the smelters and, as steel was demanded for structural purposes, that industry became common and steel bridge works followed.

But it is not necessary to trace the evolutions of the steel industry down to nuts and bolts, wire nails and horseshoes in order to further illustrate how from natural causes a great market has its inception and growth.

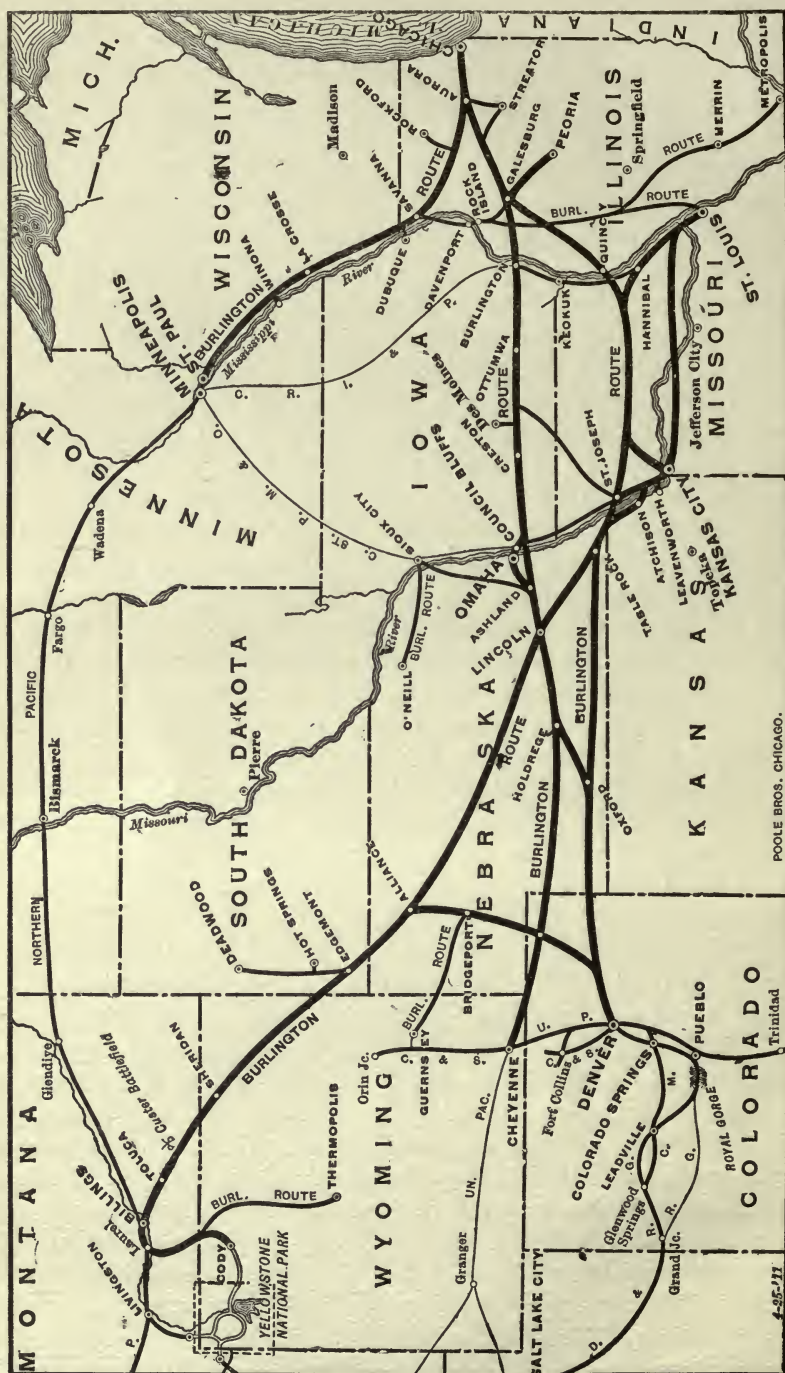
The fact must not be overlooked that a manufacturing center and market cannot be located otherwise than in a metropolis. The assembling of raw materials for the use of industrial plants demands not only the convenience of lines of transportation for their conveyance, but also the great volume of labor required for their manipulation and the capital necessary for the carrying on of the various branches of business involved. The greater the variety of industrial enterprises, the greater must be the concentration of the three essentials above mentioned.

Another very important factor that enters into the question of locating industries and the creation of market facilities is the production and distribution of the necessary power for the propelling of machinery. This incident of growth has been very radically changed within the last decade by the progress of invention that has made commercially available sources of power that were previously

merely speculative. This has chiefly been the adaptation of electricity to the propulsion of machinery, and in probably no other direction has greater progress been made in the useful arts within the last twelve or fifteen years than by the employment of electric currents for the motive power of mills, factories and other industrial enterprises.

For many years water power was the only energy applicable to the movement of machinery and the streams of the New England and other eastern sections of the country were, on that account, the great starting points of manufacturing progress and wealth in the Atlantic seaboard section of the country. A little later steam power, in a great measure, supplanted the water wheel and manufacturing enterprises were established in localities separated from running streams. Later still electricity was made available as a propelling power and, since the invention of appliances by which electric power can be transmitted without appreciable loss for hundreds of miles, it has added greatly to the present value of limited water powers because of their efficiency for the operation of electric generators. Electricity as an instrument of commerce has another, and perhaps not secondary, value in that it both centralizes and distributes the means for the conveyance of intelligence, which is especially important in conducting and dispatching the business of a great market. These are the telegraph and the telephone. By the telephone nearly every farmer of any state can be advised daily, and often hourly, of the exact condition of the market in which he sells his products. This regulates the movement of produce and stocks in such a way that a glut is prevented and receipts are controlled, conducing to a steady market and adjusting the supply to the demand.

It is a singular fact that climate is one of the strong influences that affects the location of a great market, none of importance being located south of 30 or north of 50 degrees of north latitude, only one being north of the northern limit, which is due entirely to the warm currents of the Gulf streams which modify the climate of England. This is because labor is most effective and productive, rainfall is more uniform, the soil is more fertile and products more varied in that zone than in any other north of the Equator. The natural tendency is thus to preserve the equilibrium between supply and demand, whether it be of labor or food. A glance at the map of the world shows the tendency of centralization in the world's markets. In the middle ages, when the most valuable commerce was between eastern Asia and Europe, Genoa and Venice were the world's principal markets.



POOLE BROS., CHICAGO.

Chicago, Burlington & Quincy Railroad

4-35-111

But as the movement of trade tended northward, Flanders and Holland became its center, and Rotterdam and Antwerp controlled the trade of Europe. The next movement of commerce was northwest, and London and Liverpool became the dominant commercial and financial centers of the continent. On our own continent the movement of commerce has been more modern, but the laws governing it are no less inviolable than in Europe.

The improvement of our waterways cannot nullify the laws which govern commerce and trade, but will accelerate their operation. The great markets of the world are located along the waterways, and if there should be an increase in the capacity or utility of these avenues of trade it will only enhance the importance and encourage the development of the great markets to which they are tributary and which they will serve.

It has been facetiously asked why the great rivers flowed past the great cities. It is plain enough why there are great cities along the coast lines of countries where harbor facilities are to be found in the form of bays and inlets. But in the interior of a continent commercial cities always seek locations wherever land and water transportation meet. This in America occurs near the head of the Great Lakes, as at Chicago and Duluth; it occurs at the head of river navigation, as at Pittsburgh and St. Paul. These cities also arise where several rivers and river valleys converge, and near falls and rapids which impede navigation, as at Louisville and Detroit, and where great bends occur in an important stream, or river valley, as at Kansas City and Cincinnati, and sometimes they are found where lines of transportation converge at a river bank, as at Omaha. The important part that water transportation plays in the location of commercial cities may be judged from the fact that of the twenty large cities in the United States nine are located at tide water, five on the chain of the Great Lakes, five on the Mississippi and Ohio rivers, and one on the Potomac. On the Great Lakes the waters, while encouraging urban growth, act as a bar against the provinces on the northern shores, which has contributed in a measure to the rapid growth of Chicago, Duluth, Detroit, Cleveland and Buffalo. But speaking generally and broadly, it has not been altogether the site nor the location that has made the American city. Two other influences have been dominant, which are, on the one hand, the currents of trade that, while they have always been beyond human control, have not been independent of human influence; and, on the other hand, the ability and wisdom of the population, large or small, to recognize both natural and artificial advantages and to make all that was possible out of their opportunities.

What do the promises of history mean, or indicate, in their application to Chicago?

No large city in the United States is situated so near to both the center of area and population as is Chicago. It is estimated that within a night's ride of Chicago there is a population of more than 50,000,000 people, or nearly one-half of the entire inhabitants of the country. They are a highly cultivated, energetic, prosperous people who possess nearly one-third of the wealth of the country and produce a very large proportion of the food products of the United States. Over the railroads, connecting them immediately with Chicago, are operated more than 1,500 railway passenger trains daily, all of which enter the various railway stations located within the business district of the city. The territory within this radius reaches from Omaha in the West to Pittsburgh in the East, and from Minneapolis and St. Paul in the North to Nashville in the South, and contains more than twenty large cities with smaller markets, all of which are tributary to the Great Central Market of Chicago. All merchandise is, more or less, sensitive to freight charges and cost of conveyance is an important factor in the maintenance of a market. Business interests demand that goods be purchased where they can be bought the cheapest, and freight charges are included by the retailer in the cost of his stock. He will, therefore, buy in the market nearest him, other conditions being equal. The unequalled transportation facilities of Chicago have been discussed in another chapter of this volume, and it is only necessary to recall that subject to show why the wholesale trade of this city is increasing with such marvelous rapidity. The following table from Dun's Review of January 6th, 1912, a recognized authority, show the growth of the wholesale trade and manufacturing of Chicago since 1902:

Year	Wholesale Trade	Manufactured Products	Totals
1902	\$1,298,200,000	\$1,195,460,000	\$2,493,660,000
1903	1,442,437,000	1,226,901,000	2,669,338,000
1904	1,550,270,000	1,280,000,000	2,830,270,000
1905	1,767,304,000	1,420,800,000	3,188,104,000
1906	1,855,600,000	1,491,840,000	3,347,440,000
1907	1,911,268,000	1,525,000,000	3,436,268,000
1908	1,825,263,000	1,410,625,000	3,285,888,000
1909	1,916,526,150	1,495,262,500	3,411,788,650
1910	1,549,091,000	1,549,091,000	3,503,951,000
1911	1,905,989,000	1,487,128,325	3,393,117,325

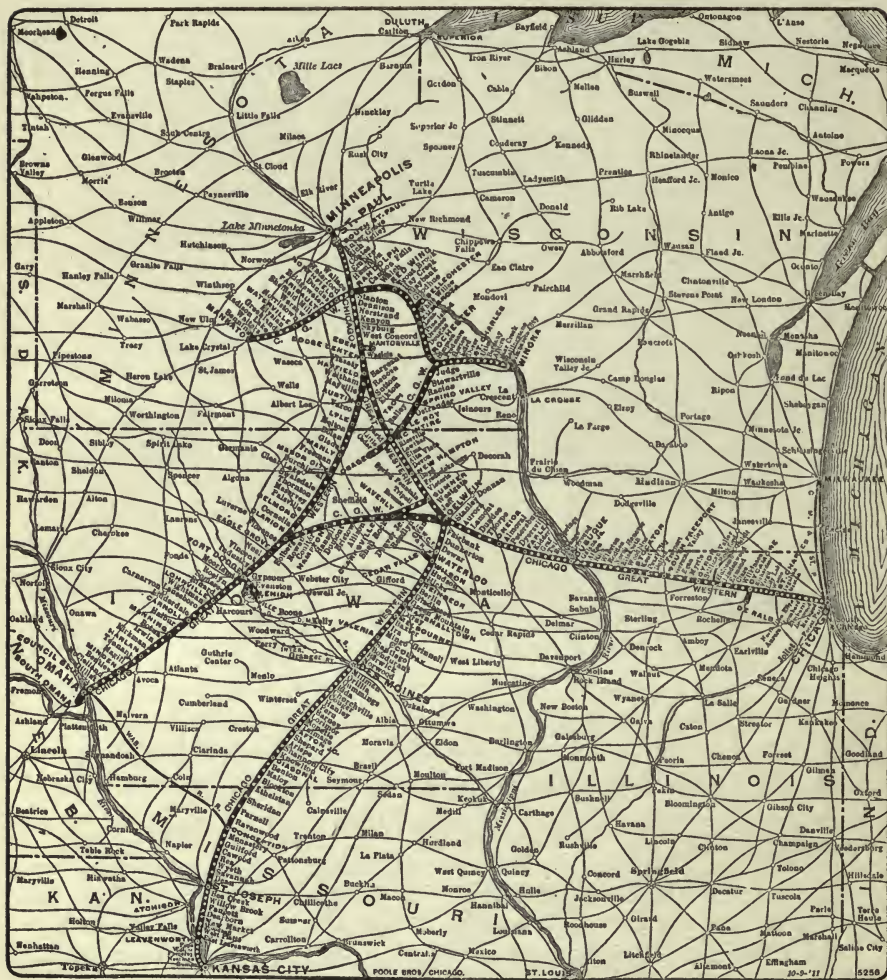
The decreases were caused by the business depression which began in the autumn of 1907 and which had a restrictive influence on manufacturing generally throughout the entire country, as well as in Chicago.

There is no disputing the fact that "Chicago is the Live Stock Market of the World," a position it has held for many years. Other markets have been established which do a large business, like Omaha, Kansas City, Sioux City, but Chicago is the more important. The following is a statement of the receipts and valuations at the Union Stock Yards during the year 1911:

Number of Head	Kind	Valuation
2,931,831	Cattle	\$180,206,174
521,512	Calves	5,788,785
7,103,360	Hogs	110,037,446
5,736,244	Sheep	24,634,185
104,545	Horses	18,818,100
16,397,492	Total	\$339,484,690

The transportation of this stock required 252,712 cars. The total shipment from Chicago for the year was: Cattle, 1,216,552; calves, 27,951; hogs, 1,526,722; sheep, 1,283,423; horses, 89,924, making a total of 4,144,572, or 82,622 cars. During the forty-six years since the Union Stock Yards were established in Chicago the total receipts of stock of all kinds have been 479,381,801 head, valued at \$8,921,813,-953. There are few cities in the world the total business of which has been in excess of that of this single branch of Chicago's trade and commerce.

The general and vigorous growth of manufacturing in Chicago for a series of years is a better indication of the development of industrial enterprises than can be indicated by the progress in a single period, large as it may be. Between 1900 and 1904 the increase in the product of manufactures of Illinois was 25 per cent, and between 1905 and 1910 it was 36 per cent. The gain in Chicago between 1900 and 1905 was 20 per cent, and between 1905 and 1910 it was 34 per cent. It should not be forgotten that many of the largest industrial institutions in the state are owned and operated by Chicago corporations and firms.



Chicago Great Western Railroad

The following table shows the principal commodities received in 1909 and 1911:

Commodity	1909	1911
Wheat, bushels.....	26,985,112	37,118,100
Corn, bushels.....	90,894,920	108,550,500
Oats, bushels.....	87,884,238	94,099,800
Rye, bushels.....	1,426,350	1,790,200
Flour, barrels.....	8,526,207	5,859,396
Butter, pounds.....	316,546,835	334,932,400
Eggs, cases.....	4,557,906	4,707,385
Iron Ore, tons.....	6,566,736	5,391,663
Coal, tons.....	13,630,000	15,500,000
Lumber, thousand feet.....	2,584,512	2,134,567
Hides, pounds.....	150,636,892	166,130,800
Wool, pounds.....	91,695,097	71,810,800
Cheese.....	83,098,982	104,075,600

The decrease in receipts of wheat and flour is due chiefly to the falling off in exports on foreign demand. The increase in wheat production has not kept pace with the demand upon the wheat fields, increment of population having caused an increase in consumption which is supplied by local markets. Undoubtedly the advance in prices has caused unusual economy on the part of consumers, which will be shown in general market reports.

Bank clearances are regarded as a very safe indication of the amount of business transacted in any of the markets of the country. The following table shows the bank clearances for the twelve months of 1911 and 1910, with the percentage of increase in each of the cities estimated in the census bulletin to contain a population of 300,000 or over:

	1911	1910	Increase or Decrease
New York.....	\$92,372,812,735	\$97,274,500,093	—5.
Chicago.....	13,925,709,802	13,939,689,984	—0.1
Philadelphia.....	7,691,842,937	7,689,664,084	+0.03
St. Louis.....	3,859,681,136	3,727,949,379	+3.5
Boston.....	8,339,718,582	8,299,320,162	+0.5
Baltimore.....	1,767,682,328	1,626,676,299	+8.7
Pittsburgh.....	2,520,285,913	2,587,325,785	—2.6
Cleveland.....	1,012,557,805	1,000,857,953	+1.2
Buffalo.....	516,876,771	502,826,696	+2.8
San Francisco.....	2,427,075,543	2,323,772,876	+4.4
Detroit.....	968,647,059	924,835,008	+4.5
Cincinnati.....	1,277,555,300	1,251,797,050	+2.1
Milwaukee.....	696,732,779	658,002,572	+5.9
New Orleans.....	1,013,907,623	978,491,235	+2.7
Washington.....	369,167,396	365,656,582	+0.1

A still closer indication of business progress is shown in the postal statistics of the cities of New York and Chicago in 1910 and 1911. The receipts indicate the growth in population and the money orders show the increase in business that rarely goes through the banks. The gain in receipts of the Chicago office for the year shows, if compared with the total receipts of some of the offices included in the list, about how large a city Chicago is adding to itself each year. In its money order business Chicago outranks every other city in the United States.

Postoffice	Receipts 1911	Gain Over 1910	Domestic Money Orders 1911	
			Amount Issued	Amount Paid
New York.....	\$24,190,109.65	\$1,073,654.13	\$14,339,500.72	\$59,675,454.06
Chicago.....	20,317,374.57	1,294,054.13	11,933,117.09	96,505,881.72

Comparisons with the other large cities in the United States signify little, as the next largest city to Chicago is Philadelphia, the receipts of which postoffice are about one-third of that of Chicago.

In 1905 the Federal building, containing the postoffice, was completed at a cost of \$4,757,000. The structure is 311 by 386 feet, eight stories high, with a dome section of eight additional stories, the total height being 297 feet. An appropriation has been made by Congress for a block of ground and a building to be erected to relieve the congestion of business in the present structure.

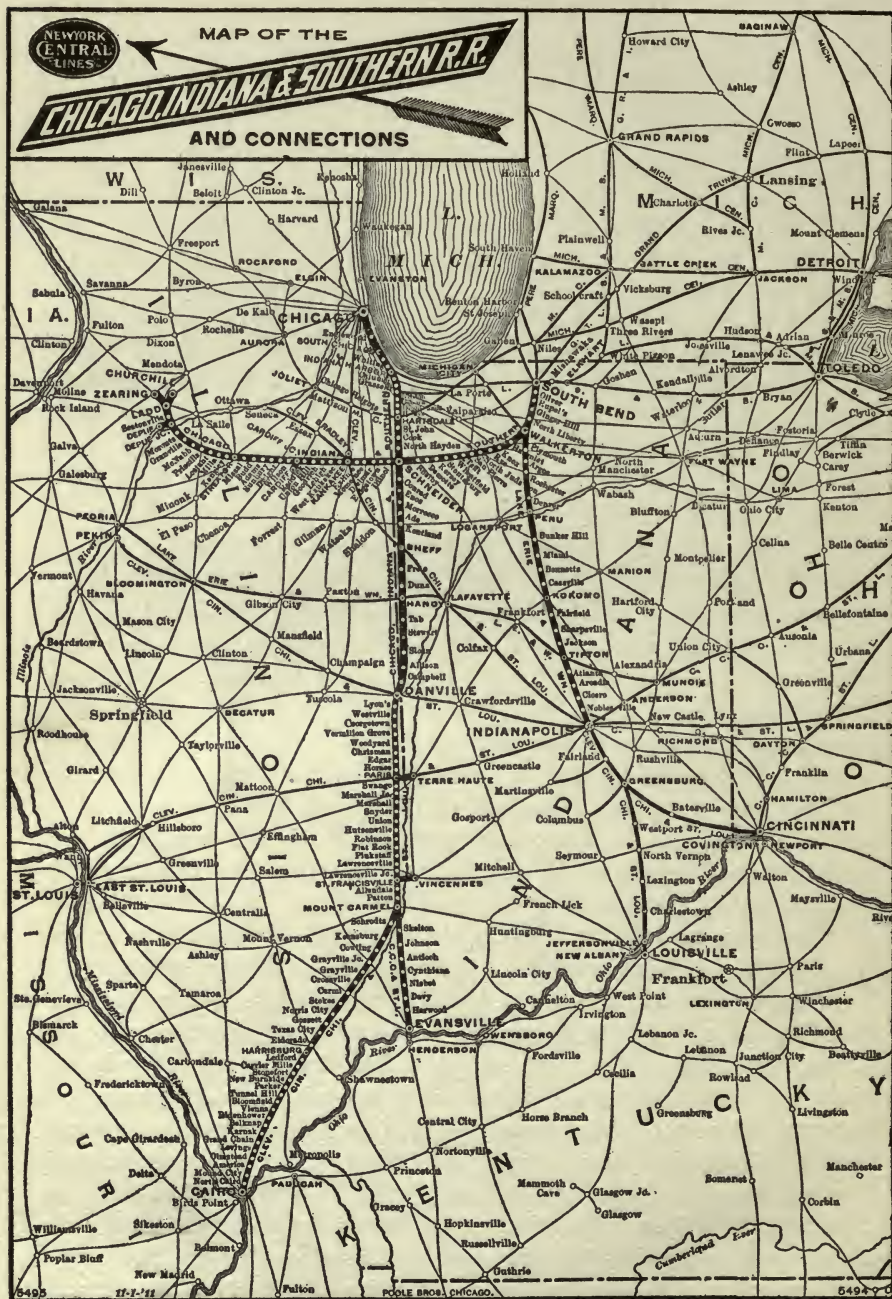
IV.

Chicago—Its Supply of Raw Materials

"Theoretically, the prime factors of the industrial problem are raw materials, power, transportation, markets and labor, and no community can thrive as a manufacturing center which does not possess at least three of these factors." With its boundless resources of this character, the West has not kept pace with the East in the development of its industries until very recently, and this has been due largely to the conservative force of invested capital. The industrial development of the country began in New England. That section of the country was illy adapted to successful agriculture commensurate with its growing demands, while it did possess abundant water power, with a population accustomed to labor and admirably fitted to industrial pursuits. The southern Atlantic states, with slave labor, but without natural power for propelling of machinery, could supply the spindles of New England with cotton, and these two conditions offered inducements for the founding of the infant textile industries of the New England states, which were eagerly seized and put into active operation. New England grew rich and prosperous from the weaving of cotton fabrics, for which there was no limit so far as demand was concerned. The prosperity of the western agricultural area was New England's opportunity.

The opening of the coal and iron ore fields of Pennsylvania furnished employment for the capital of the Middle States, and the building of railways east of the Alleghenies kept eastern capital so well employed at home as to place an embargo upon its investment in western industrial pursuits.

For more than half a century the West was simply a tributary to the East, and lavishly did it pour its gold—the products of the farms—into the eastern markets. The building of railroads in the West was the first demand for the opening of eastern money bags that met with anything like favorable response. Western development grew in importance and magnitude. With such financial encouragement the commercial center of the country began its slow western movement, which stimulated a surprising growth along industrial lines through the northern portion of the States of Ohio, Indiana and Illinois and Southern Michigan. The increasing importance of Chicago naturally made her the center of this new movement. The conservative power of invested capital was broken and the West gave abundant promise that sooner or later it would become the nation's workshop.



It has been said that the demand for, and use of, iron is the best measure of the nation's prosperity, a declaration that has ample verification in the United States, and especially in the West. The discovery in 1844 and the opening of the immense deposits of rich iron ore in the Vermilion, Gogebec, Menominee, Marquette and Mesabe ranges, within easy reach of Lake Superior, afforded new possibilities for manufacturing enterprises. These deposits all lie within a radius of from 350 to 900 miles of Chicago, while to the south of the city are 40,000 square miles of the best deposits of bituminous coal on the continent.

The production of iron ore in the Lake Superior region for the year 1911 was: Mesabe Range, 22,093,532 tons; Cuyana Range, 147,431 tons; Vermillion Range, 1,088,930 tons; Marquette Range, 2,833,116 tons; Menominee Range, 3,911,174 tons; Gogebec Range, 2,603,318 tons, and miscellaneous, 115,629 tons, making a total of 32,793,130 tons, or about 8,890,000 tons less than in 1909. The total product of iron ore in the United States annually is about 50,000,000 tons, of which the Lake Superior region usually yields about four-fifths.

Following the discovery of this ore there was an effort to establish steel mills at the head of Lake Superior. There was an abundance of iron ore, coal in profusion could be had from Pennsylvania, and it was cheaper to ship the coal to the ore than the ore to the coal. But the effort failed. What was the difficulty? The first obstruction was the absence of a local market to create a demand for and the use of the product of the furnaces. That market was all at the East, and what could be saved by not shipping the ore and manufacturing the iron at home was, in a measure, counterbalanced by the necessity of transporting the finished products to the East. Surrounding industrial plants are, almost invariably, a cordon of industries that draw their material from the parent plant. Adjacent to great iron industries there will grow up a collection of collateral interests, such as factories for making machinery, large foundries and mills of various kinds using the pig iron for the manufacture of iron implements of all kinds, from wire nails to steamship plates. The effort to establish iron furnaces near the ore beds utterly failed. Of this Lake Superior ore, 5,391,653 tons was, in 1911, shipped to the manufacturing district of Chicago, where it was made into steel rails, structural and every other variety of mercantile iron, which has found a ready and active market almost at the doors of the blast furnaces. Chicago has outdistanced all other sections of the country in the number and size

of the new iron mills of various kinds now in progress of erection within its limits or contiguous thereto. The iron and steel interests have already outgrown Pittsburgh and the southern extremity of Lake Michigan has been selected by the demands of trade and commerce for the future development of the industry. The completion of iron mills now in progress of construction at or near Chicago will result in an output of over 12,000,000 tons annually.

Chicago is the largest lumber market in the country. It is a great market not only because of the large quantities of lumber received, but because of the very large variety in the kinds of woods which make up the stocks of the local yards. According to the reports of the American Lumberman, the total receipts of lumber for the year 1911 were 2,134,567,000 feet and 481,193,000 shingles. The shipments of lumber aggregated 803,923,000 feet, most of it to eastern points, the difference (1,330,644,000 feet) showing the domestic consumption. These facts explain why Chicago is the largest furniture market in the country, while for pianos, organs, carriages, and other industries demanding both fine and rough, or common, lumber, it is not equaled on the continent.

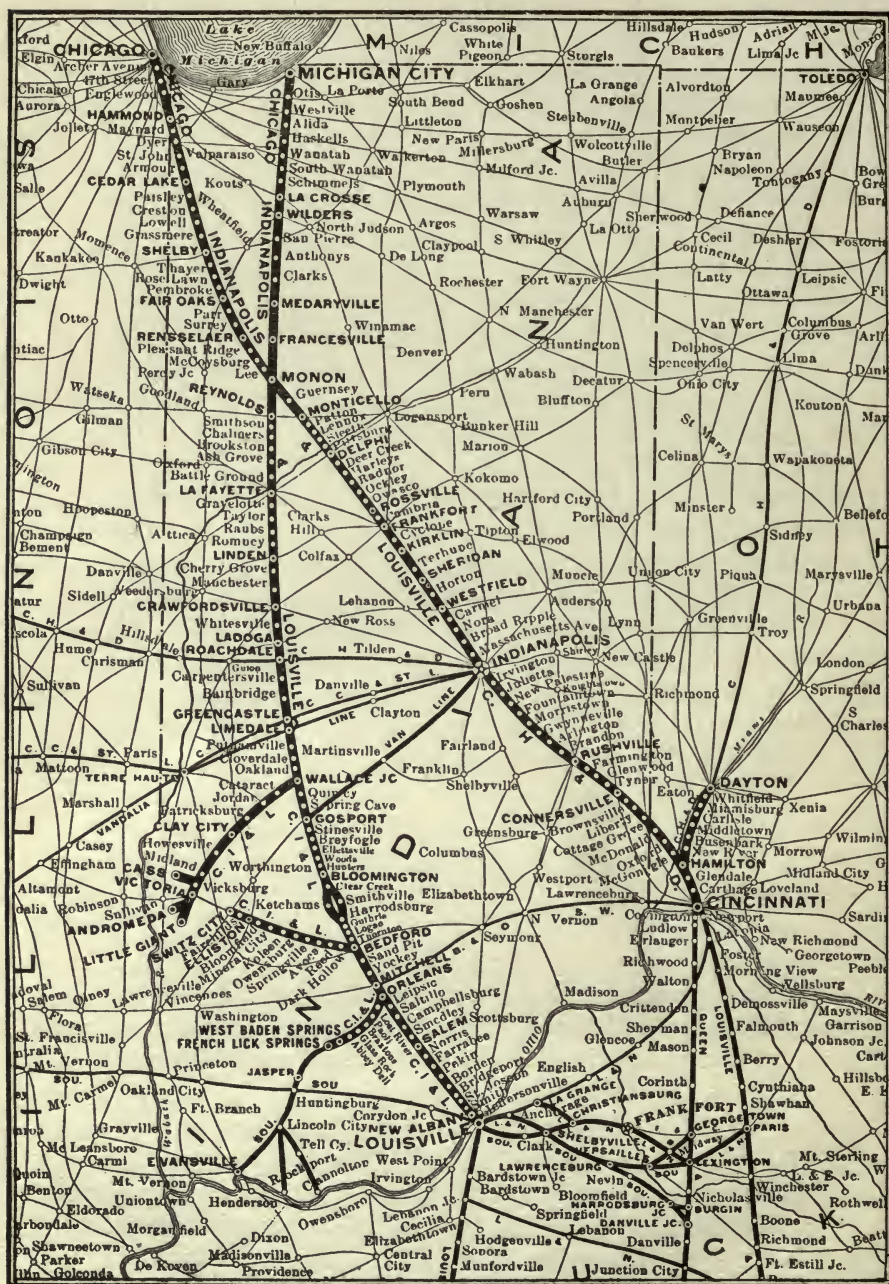
As to the uses to which much of this lumber is put in the city of Chicago, the following table compiled from a recent government report on the wood working industries of this city indicates (in board measure) the immense quantity of the eighty-four different varieties of foreign and domestic woods that enter into the industries of Chicago:

Cars	245,745,500
Boxes and crating	273,844,000
Sash, doors, etc.	167,072,840
Farm machinery	88,181,000 —
Furniture	52,918,750
Pianos and organs.....	36,913,500
Store, office and bar fixtures.....	15,748,500
Cooperage	10,600,000
Butter tubs	22,000,000
Picture and fancy mouldings.....	39,943,250
Wagons	11,590,000 —
Tanks	7,810,000
Hardwood flooring, etc.....	24,730,000
Sewing machine parts	600,000
Baskets and fruit packages.....	2,750,000
Chairs	16,262,000

✓ Mantels and cabinet work.....	13,545,000
Handles	450,000
Miscellaneous	5,466,000
Laundry machines and accessories.....	3,057,000
Tables	7,612,520
Couch frames	5,166,000
School, lodge and church furniture.....	6,527,000
Electrical apparatus	7,510,000
Coffins and caskets.....	5,436,000
Buggies and light vehicles.....	1,505,830
Parlor furniture frames.....	5,932,660
Refrigerators	4,354,000
✓ Screens, window and door.....	4,850,000
Signs and billboards.....	5,510,000
Toilet accessories	4,625,000
Greenhouses and conservatories.....	4,967,000
Ladders	2,154,000
Machine parts	428,000
Trunks and sample cases.....	2,320,000
Sporting goods	449,000
Cigar boxes	1,821,350
Meat blocks	300,000
✓ Stairs	1,834,000
Barber shop furniture.....	1,547,000
Boats	545,000
Novelties and toys.....	290,000
Musical instruments	615,420
Willow and rattan goods (given in pounds).	
Total	1,116,855,120

Of the total amount of wood used in all industries in Illinois, 62.2 per cent is used in Chicago, eighty-four different varieties of wood being made use of in these diverse manufacturing establishments.

About equal in importance to iron and lumber is coal. In fact, without lumber, coal and iron ore would lose much of their value. Illinois ranks third among the states in its output of bituminous coal, the product being about 51,000,000 tons annually, from a coal area of about 40,000 square miles, and reaching from the Ohio river north to within forty or fifty miles of the city limits. Illinois, with Iowa, Indiana and Ohio, mine in the aggregate considerably over 101,000,000 tons annually.



Chicago, Indianapolis & Louisville Railway (Monon)

This coal, while of the very best quality, is valued at about \$1.10 per ton at the mines. The coal, of which about 14,000,000 tons are consumed in Chicago annually, costs from \$1.50 to \$2.00 per ton delivered, depending on quality, cost of transportation, amount contracted for and some other minor charges. Notwithstanding the proximity of the western coal fields to Chicago, there is considerable coal (mostly anthracite) and coke used in this city, brought from eastern mines and ovens.

Coke plays a very important part in the manufacture of iron and steel. Much of the coke used in Chicago is from the eastern ovens, the product of the ovens here being about 3,420,000 tons annually.

Copper is annually becoming of greater importance and value in the industrial progress of the entire country. The world's output in 1910 was 1,086,249,983 pounds, of which the United States produced 985,402,482 pounds, or over 72 per cent of the total. The states having the largest product in the order of volume are Montana, Arizona, Michigan, Utah and Nevada, which yield more than two-thirds of the total. Michigan is in close touch with Chicago by water, while each of the other copper producing areas are connected by rail with this city. Between four and five thousand tons of copper are received in Chicago annually by lake transportation, where it is manufactured into various articles of which copper and brass form an important feature.

The lead and zinc that come to this market are from the Joplin district, comprised of portions of Missouri, Oklahoma and Kansas, the state of Illinois, and the state of Wisconsin, all of which districts are directly tributary to Chicago. The product metal from these districts in 1910 was 647,229 tons, as reported, of which 369,164 tons was lead and 278,065 tons was zinc.

The use of cement in the construction of large buildings, especially those which are to be used for manufacturing purposes, was within the last decade so universal as to give that material an importance second only to steel and lumber. Chicago has become the logical market for the cement product of the three states of Illinois, Indiana and Michigan, which is about 13,000,000 barrels annually, or about one-fourth the entire product of the country. In this market it is possible to concentrate half a million barrels of cement within forty-eight hours after the demand occurs. This means that Chicago controls the cement market of the Middle West. In fact, it may be truthfully said that because of its central location its superior advantages of both rail and water transportation, this city covers a wider

field both in the collection and distribution of cement than any other American market. Chicago cement entered into the construction of the Union railway station at Washington, as well as in the rebuilding of San Francisco. In this connection the following extract from the Daily Consular and Trade Reports, issued by the government, is of interest: "Winnipeg has just concluded a contract to buy 25,000 barrels of cement from the United States for delivery during 1912. This move on the part of the city council was entirely unexpected. Since the merging of all the cement interests of Canada under the head of the Canada Cement Co., it has been generally believed that this great corporation would absolutely control the sale of cement in the Dominion.

When the city asked for tenders, it was found that a cement company of Chicago was the lowest bidder at 71.43 cents per 100 pounds, including sacks, and 60 cents exclusive of sacks. The bid of the Canada Cement Co. was 72.65 cents per 100 pounds, including sacks, and 61.22 cents, exclusive of sacks. The city will save \$3,500 after paying a duty of $51\frac{3}{4}$ cents per barrel. In forwarding this bid the Chicago company agreed that in case there is a reduction in duty or any revision in freight rates, the city will be given the benefit of the reduction."

It is impossible in the space at command to give in detail the products classed as raw material which are consumed in industrial activities of this city. But we enumerate a few only of the more prominent that are the products of territory immediately tributary to Chicago. There are petroleum, salt, leather, cotton, wool, building stone, brick, marble, gravel, sand, lime and some others of lesser importance. No city, domestic or foreign, can claim a larger or richer endowment of natural wealth than Chicago.

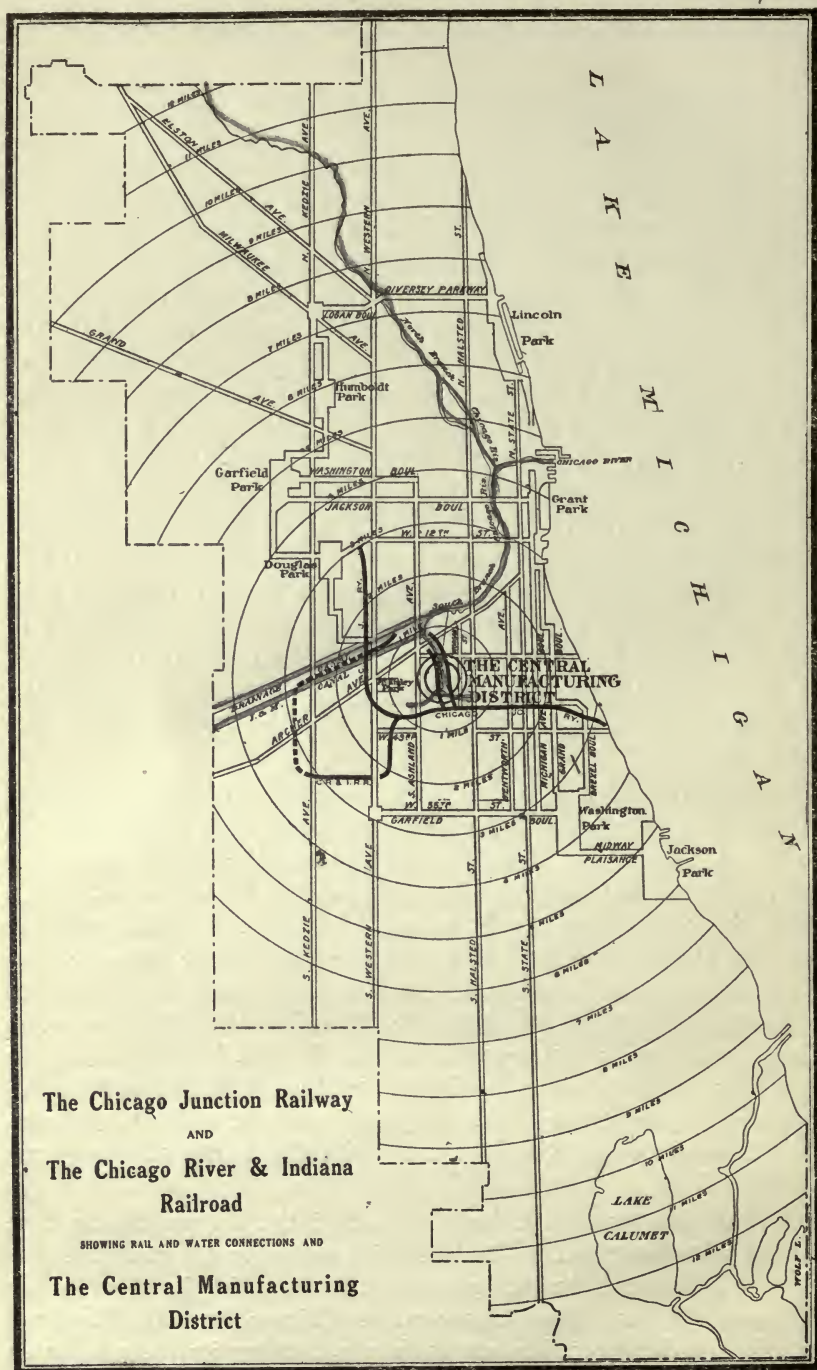
V.

Chicago—Its Industrial Expansion

There are no qualities that so plainly indicate the business abilities of the people of a country, or any section of it, as the ingenuity, energy and thrift of those who inhabit it. While merchandizing and banking always indicate, to some extent, the prosperity and business qualities of the citizens of a state or a city, the manufacturer must be not only a financier, but also a salesman; he must provide the means for creating his products, as well as possess the capacity to dispose of them at a remunerative profit. In addition to these, he must be endowed with a creative quality of mind, which is not essential in financial or commercial operations. He must originate something to meet a public want or demand, which neither the banker or merchant is required to do. The people which have made the most rapid advancement, not only in the increase of their wealth, but also in civilization, education and refinement, are those which contribute most largely of the manufactured products which are demanded to meet the universal requirements of the world's population. In those attainments what people can claim precedence over the United States, Great Britain, Germany and France, among which the world's workshops are located?

What is true of nations as a whole is equally true of the different sections of each, compared one with another. This is illustrated in the past history of our own country. Before 1860 the South raised its own cotton, but sent it to New England to be woven into cloth, which the Southerner bought back. There was no manufacturing south of Mason & Dixon's line, and the people were poor, colleges were few and small, and progress was slow, while New England grew rich and prosperous. Now the South is making its own cotton fabrics, smelting its own ores, building up its own industries, diversifying its agriculture, enlarging its colleges to universities, and becoming rich and progressive. The song of the shuttle and the trip hammer has awakened the South to a new life that is full of energy and activity.

What is the story of Chicago? In 1825 the only machinery here was the water cart that peddled drinking water, by the pailful, to the thirsty pioneer and the pestle and mortar in which he pounded his coffee and pepper. Emigrants came to Chicago from the East and passed on to the West because there was nothing for them to do on



the shore of the lake. These were the pioneers who settled the counties of Will, DuPage, Kane, Lake and Winnebago. The early mechanics in Chicago were the blacksmith and the shoemaker.

But those who passed through Chicago, as well as those who remained, could not long depend upon the steamboat, with its limitations to open water in the lakes, and the ox carts as the only means of reaching markets and for the conveyance of manufactured necessities of life therefrom. The result was that local industries for supplying the people with food and building materials were among the first to be established in Chicago. It was entirely natural that one of the first, if not the very first, industrial enterprise to be located here was a slaughtering and meat packing plant, the market prices for its product being from three to five cents a pound. About the same time (1823) a blacksmith shop was opened, a foundry in 1835, and a stove manufactory in 1846.

Prior to the government census of 1850 the statistics of manufacturing in Chicago were not separated from those of the county of Cook, and it is therefore impossible to say just how important a part the city took in the aggregates credited to the county. The following table shows the growth of manufacturing interests for each census between 1850 and 1910, both inclusive. The early enumerations are seriously defective in manufacturing data, the census being devoted, especially in the West, to statistics of population, agriculture, education, religion, and industrial occupations of the citizens.

	Number of Indus- tries	Capital	Cost of Raw Material	Number of Wage Earners	Value of Product
1850	.....	\$ 1,068,025	.....	.....	\$ 2,562,583
1860	467	5,420,725	\$ 6,591,445	5,453	11,944,229
1870	1,440	30,372,276	60,332,188	31,105	92,518,742
1880	3,518	68,831,885	179,194,925	70,391	248,995,848
1890	9,977	359,739,598	409,498,027	190,621	664,567,923
1900	19,203	534,000,689	538,401,562	262,621	888,945,311
1905	8,159	637,443,474	589,913,993	241,984	955,036,277
1910	9,656	971,841,000	793,470,000	293,977	1,281,171,000

It will be observed that the number of industries reported in 1890 and 1900 are abnormally large, which is due to the fact that some small establishments, like cigar manufactures, bakeries, and some others of similar character were dropped in succeeding enumerations, as were also different and separated small shops owned by one corporation or firm, which in later censuses have been reported in the

aggregate as one establishment. The rule now followed is to include under the term "establishments" all the factories, mills or plants which are located within the same city, under a common ownership or control and for which one set of books is kept.

The following table shows the comparative growth of manufacturing in Chicago, by selected industries having an annual output of \$500,000 or over, under the censuses of 1890, 1905 and 1910, the statistics being brought down to December 31st of the year:

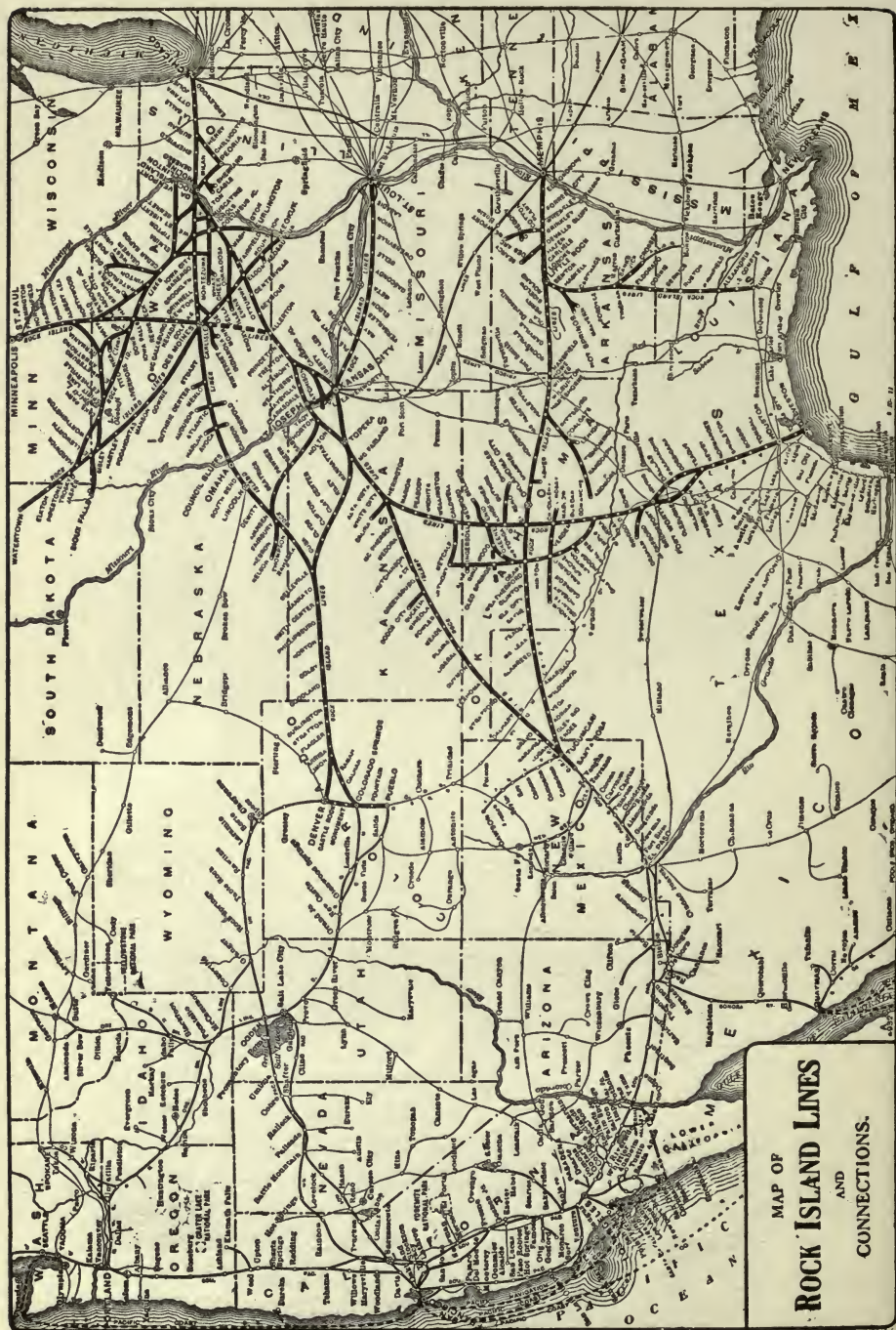
Automobiles	1909.....\$	3,940,000
	1904.....	354,000
	1899.....	.....
Bags, other than paper.....	1909.....	965,000
	1904.....	809,000
	1899.....	547,000
Baking powders and yeast...	1909.....	7,009,000
	1904.....	3,890,000
	1899.....	3,336,000
Belting and hose leather.....	1909.....	2,188,000
	1904.....	1,055,000
	1899.....	1,361,000
Boots and shoes.....	1909.....	9,858,000
	1904.....	6,559,000
	1899.....	6,814,000
Boxes, cigar	1909.....	541,000
	1904.....	478,000
	1899.....	399,000
Boxes, fancy and paper.....	1909.....	5,044,000
	1904.....	2,825,000
	1899.....	2,923,000
Brass and bronze products...	1909.....	5,131,000
	1904.....	3,195,000
	1899.....	2,703,000
Bread and bakery products...	1909.....	26,908,000
	1904.....	20,654,000
	1899.....	12,763,000
Brick and tile.....	1909.....	1,172,000
	1904.....	1,573,000
	1899.....	434,000
Brooms and brushes.....	1909.....	1,560,000
	1904.....	1,048,000
	1899.....	865,000

Canning and preserving.....	1909.....	\$ 3,824,000
	1904.....	3,882,000
	1899.....	3,545,000
Carriages and wagons.....	1909.....	5,203,000
	1904.....	4,076,000
	1899.....	3,036,000
Cars, steam roads.....	1909.....	18,359,000
	1904.....	11,172,000
	1899.....	8,185,000
Cars, street	1909.....	2,758,000
	1904.....	1,110,000
	1899.....	1,076,000
Cars, other	1909.....	20,812,000
	1904.....	23,799,000
	1899.....	19,108,000
Chemicals	1909.....	1,149,000
	1904.....	1,724,000
	1899.....	1,382,000
Clothing, men's	1909.....	86,996,000
	1904.....	45,626,000
	1899.....	37,847,000
Clothing women's	1909.....	15,677,000
	1904.....	11,637,000
	1899.....	9,208,000
Coffee and spices, roasted and ground	1909.....	19,599,000
	1904.....	15,563,000
	1899.....	12,612,000
Coffins and burial cases.....	1909.....	1,838,000
	1904.....	1,297,000
	1899.....	1,005,000
Confectionery	1909.....	11,222,000
	1904.....	6,550,000
	1899.....	5,718,000
Cooperage, etc.	1909.....	3,368,000
	1904.....	3,406,000
	1899.....	2,912,000
Copper, tin and sheet iron products	1909.....	12,242,000
	1904.....	8,137,000
	1899.....	8,725,000

Corsets	1909.....\$	1,779,000
	1904.....	559,000
	1899.....	395,000
Cutlery and tools.....	1909.....	1,895,000
	1904.....	946,000
	1899.....	278,000
Electrical machinery	1909.....	20,669,000
	1904.....	16,292,000
	1899.....	11,358,000
Fancy articles not specified..	1909.....	1,289,000
	1904.....	1,664,000
	1899.....	791,000
Foundry and machine shop products	1909.....	89,669,000
	1904.....	68,491,000
	1899.....	57,721,000
Fur goods	1909.....	1,903,000
	1904.....	1,421,000
	1899.....	2,319,000
Furnishing goods, men's.....	1909.....	6,122,000
	1904.....	3,503,000
	1899.....	3,334,000
Furniture	1909.....	20,512,000
	1904.....	17,622,000
	1899.....	12,519,000
Gas and electric fixtures.....	1909.....	4,683,000
	1904.....	2,485,000
	1899.....	1,630,000
Gloves and mittens, leather...	1909.....	2,181,000
	1904.....	1,511,000
	1899.....	2,240,000
Grease and tallow.....	1909.....	4,948,000
	1904.....	2,303,000
	1899.....	1,922,000
Hats and caps, other than felt, straw and wool.....	1909.....	1,046,000
	1904.....	1,027,000
	1899.....	952,000
Hosiery and knit goods.....	1909.....	1,477,000
	1904.....	1,309,000
	1899.....	647,000

Ink, manufactured	1909.....\$	569,000
	1904.....	349,000
	1899.....	.....
Iron and steel.....	1909.....	45,984,000
	1904.....	24,840,000
	1899.....	.....
Jewelry	1909.....	2,635,000
	1904.....	1,746,000
	1899.....	1,606,000
Leather goods	1909.....	5,861,000
	1904.....	5,023,000
	1899.....	3,858,000
Leather, tanned	1909.....	13,244,000
	1904.....	9,420,000
	1899.....	6,979,000
Liquors, malt	1909.....	19,512,000
	1904.....	16,983,000
	1899.....	14,957,000
Lumber and timber products..	1909.....	32,709,000
	1904.....	19,808,000
	1899.....	11,536,000
Marble and stonework.....	1909.....	3,930,000
	1904.....	3,356,000
	1899.....	2,061,000
Mattresses and spring beds...	1909.....	2,377,000
	1904.....	1,753,000
	1899.....	1,488,000
Models and patterns.....	1909.....	678,000
	1904.....	494,000
	1899.....	342,000
Musical instruments and ma-		
terials not specified.....	1909.....	614,000
	1904.....	663,000
	1899.....	507,000
Musical instruments, pianos		
and organs	1909.....	11,487,000
	1904.....	8,488,000
	1899.....	6,802,000
Paints and varnish.....	1909.....	18,942,000
	1904.....	12,665,000
	1899.....	8,096,000

Patent medicines	1909.....\$	10,360,000
	1904.....	11,942,000
	1899.....	5,912,000
Photographic apparatus	1909.....	740,000
	1904.....	802,000
	1899.....	494,000
Photo engraving	1909.....	2,156,000
	1904.....	1,324,000
	1899.....	1,061,000
Printing and publishing.....	1909.....	74,211,000
	1904.....	53,033,000
	1899.....	36,238,000
Slaughtering and packing....	1909.....	325,062,000
	1904.....	270,549,000
	1899.....	257,250,000
Smelting and refining (not ores)	1909.....	2,574,000
	1904.....	1,140,000
	1899.....	278,000
Soap	1909.....	19,939,000
	1904.....	13,770,000
	1899.....	9,065,000
Stereotyping and electrotyp- ing	1909.....	1,282,000
	1904.....	1,165,000
	1899.....	673,000
Stoves and furnaces.....	1909.....	3,183,000
	1904.....	2,138,000
	1899.....	.....
Surgical appliances	1909.....	2,075,000
	1904.....	1,004,000
	1899.....	513,000
Tobacco manufactured	1909.....	16,633,000
	1904.....	11,017,000
	1899.....	8,174,000
Type founding	1909.....	1,248,000
	1904.....	1,168,000
	1899.....	1,257,000
All industries	1909.....	1,281,171,000
	1904.....	955,036,000
	1899.....	797,879,000



MAP OF
ROCK ISLAND LINES
 AND
 CONNECTIONS.

Large as these figures may appear, they by no means represent the total industries in which Chicago is interested. Manufacturing plants owned and operated by Chicago manufacturing concerns, the products of which are marketed in this city, are very widely scattered not only through the county of Cook, but also through neighboring states, and these are credited, by the census, to the place, town or city in which such plants are located. There are Chicago-owned tanneries in Wisconsin, furniture manufactories, and iron and steel mills in Indiana, Michigan and Iowa; ladies' wearing apparel in various cities of this state; laces, cotton cloth and woolen goods in Illinois; agricultural implements outside the city limits; saw mills, wagon and carriage stock manufactories in numerous localities in other states, and various equally important factories and mills are to be found at frequent intervals within the radius of a night's ride from Chicago.

The following table of manufactures from the census of 1905 shows the importance, as an industrial area, of the territory within a few hours' ride of this city, and explains why it is the center of industrial activity of the United States:

	United States	Area Within a Night's Ride of Chicago	Per Cent Area Forms of United States
Number of establishments.	216,262	71,493	33.5
Value of products.	\$14,802,147,000	\$4,674,100,506	31.6
Cost of materials used. . . .	8,503,950,000	2,697,739,141	31.8
Salaries and wages.	3,186,302,000	892,619,914	28.0
Miscellaneous and expenses	1,455,019,000	519,958,754	36.3
Value added by manu- facture (products less cost of material).	6,298,197,000	1,975,363,365	31.2
Employees—			
Number of salaried officials and clerks . . .	519,751	180,064	34.6
Average number of wage earners employed dur- ing the year	5,470,321	1,436,606	26.2

CHICAGO'S MANUFACTURES—FROM CENSUS OF 1910

Year	No.	Pro- prietors	Salaried Employees	Wage Earners	Total Paid Wages
1899	7668	.....	32,406	221,191	\$108,727,000
1904	8159	7,269	40,276	241,984	136,405,000
1909	9656	8,156	54,821	293,977	174,112,000

Year	Capital	Cost of Material	Value of Product	Value Added by Manufacture
1899	\$511,249,000	\$502,222,000	\$797,879,000	\$295,657,000
1904	637,743,000	589,914,000	955,036,000	365,122,000
1909	971,841,000	793,470,000	1,281,171,000	487,701,000

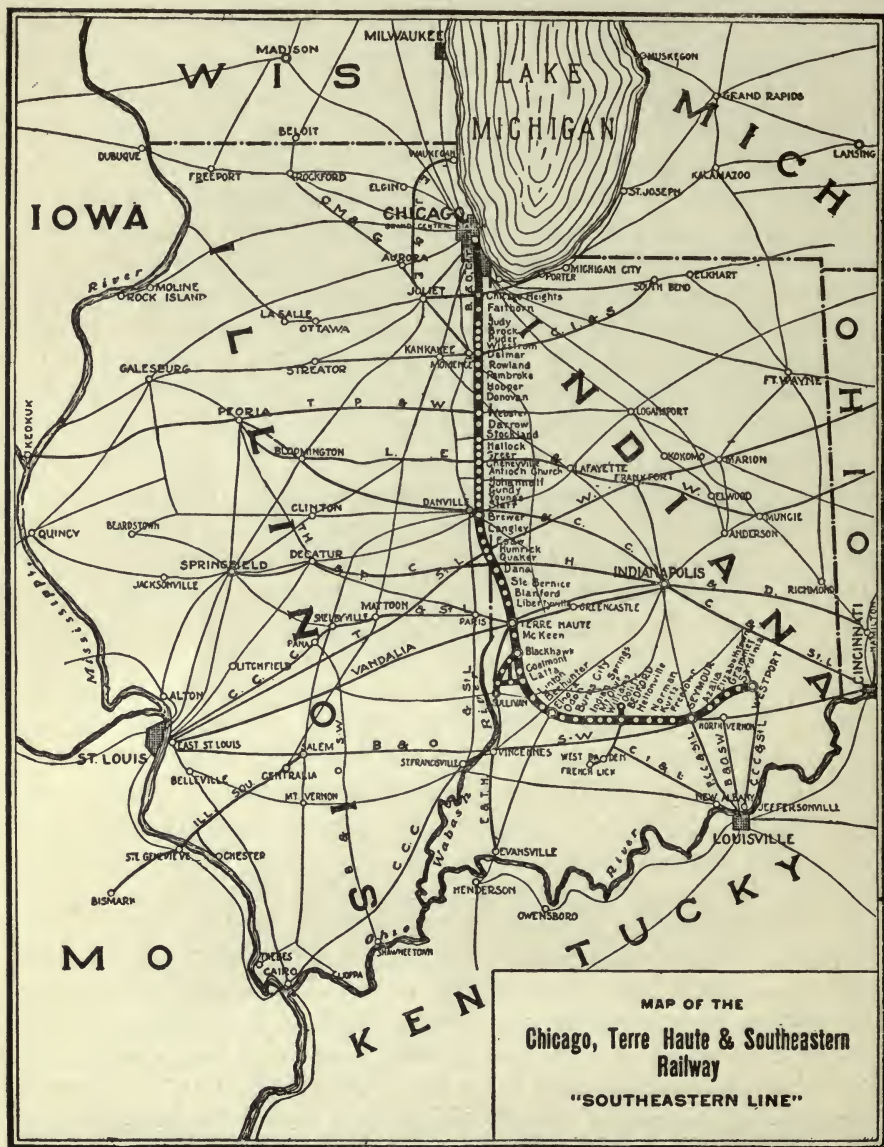
VI.

Chicago—Its Industrial Districts

In nearly every progressive town and city of the United States there is being waged an energetic campaign to secure the location of industrial enterprises. In a large majority of these cases very little consideration is given to the prerequisites absolutely essential to the profitable operation of the industries sought. Questions of transportation, of raw materials, of labor supply, of cost of living, and many others are overlooked entirely or are not given the consideration they deserve. Educational advantages, home requirements, and religious conditions are seldom mentioned, unless the place is large enough to be endowed with these evidences of a cultivated society, in which esthetic tastes have already been developed and are supplied with whatever the people desire and appreciate.

In the struggle of ambitious communities it is too often forgotten that it is not enough to induce either more factories to locate within their limits or to increase the local production of more merchandise. An attendant and imperative duty is to make such provision that the increased production of manufactured goods shall not conduce to, or encourage, such a congestion of population within an area already overcrowded as will tend to the detriment of the public welfare, the protection of which is of infinitely more importance than the mere increase of trade and commerce, desirable as that may be. In a word, the desire to locate industries should not be strong enough to defeat or limit the social growth of the community.

Factories should be erected only in localities set apart for their occupancy, but yet made accessible by the means of transportation required in the carrying on of the business for which they are constructed and for the convenience of the employes upon which the industries depend for labor. Industrial establishments should be strictly excluded from the residential sections of the town, as well as from its mercantile quarter. They should not be permitted to locate where they would be endangered by fire, nor where they themselves would be a menace by fire to other near-by buildings of any character. In some of the modern American cities this subject has been wisely met. The securing of a new industry may be a credit to any city, but it is so only when the site of the industry, the character of the buildings and the conduct of the business engaged in, contribute to the welfare of the community as a whole.



In the early history of the city of Chicago, when its importance as an industrial center first began to attract the attention of local operators, the demand for manufactured products was almost entirely local or, at most, required to supply the territory immediately adjacent to the river. Land was cheap and sites were small. The advent of the railroads and the settlement of the prairies North and West of the city widened the market for Chicago's products and this demand necessitated enlarged manufacturing facilities.

The city also rapidly increased in population which enhanced the price of real estate in and near the heart of the city. The land was required for homes and stores. Gradually the shops and factories were crowded out, and, as a rule, they sought locations along the lines of the railroads. But here another difficulty was encountered. A manufacturer located on a line running east, in case he wished to ship his goods west or south, was compelled to transport his products by means of drays, frequently long distances, to a road reaching the consignee and this was enormously expensive. In fact it has been estimated that more money was annually expended for trucking in Chicago that was received by some of the largest railway systems having terminals in the city. The trucking conditions worked as disastrously in the receiving of goods, wares and merchandise as in their outgoing. This difficulty could only be met by the building of what is now known as the belt lines, which connect all the roads with each other, greatly facilitating and cheapening the movement of freight, reducing the necessity for drayage to a minimum.

But these belt railroads, or switching tracks, of which there are twelve, have had a very important influence on the growth of the entire city. They have resulted in the creation of manufacturing districts in which industries have sought locations, outside of the residence quarters of the city, where their buildings are not menaced by fire nor do they threaten dwellings with destruction, ample provisions against local fires having been made. These districts are situated in localities that are not inviting for residences of proprietors or for the homes of the employes and, therefore, they do not tend to congestion of the districts with population of any description. The various lines of street cars, or electric roads, run to nearly, if not quite all, of these districts furnishing employes cheap and easy means of travel between their homes and places of employment.

There are in all eighteen of these manufacturing districts scattered about in every division of the city, and adjacent territory, and all are so located that they are easily supplied with power to any required

extent. The management of these tracts varies greatly. As a rule they are owned by associations, some of which sell sites outright; others rent the land for a term of years, the lessee erecting his own buildings; while others will lease the land and erect the buildings with privilege of purchase at a stipulated period and valuation.

There is no city ordinance regulating the location of manufacturing establishments nor is any seeker for a location obliged to select a site in any of these districts, but the advantages of doing so are so great that a prospective purchaser will naturally see the expediency of locating upon some one of them. Should a company or corporation require a larger tract than any of the manufacturing districts can offer him, there is no difficulty in making such a purchase as is evidenced by the fact that quite recently an Eastern corporation purchased a plat of 370 acres outside of a district upon which to erect its works. The extent of a purchase in any section of the Manufacturing Zone of Chicago is limited only by the volume of the capital it is proposed to invest in the plant.

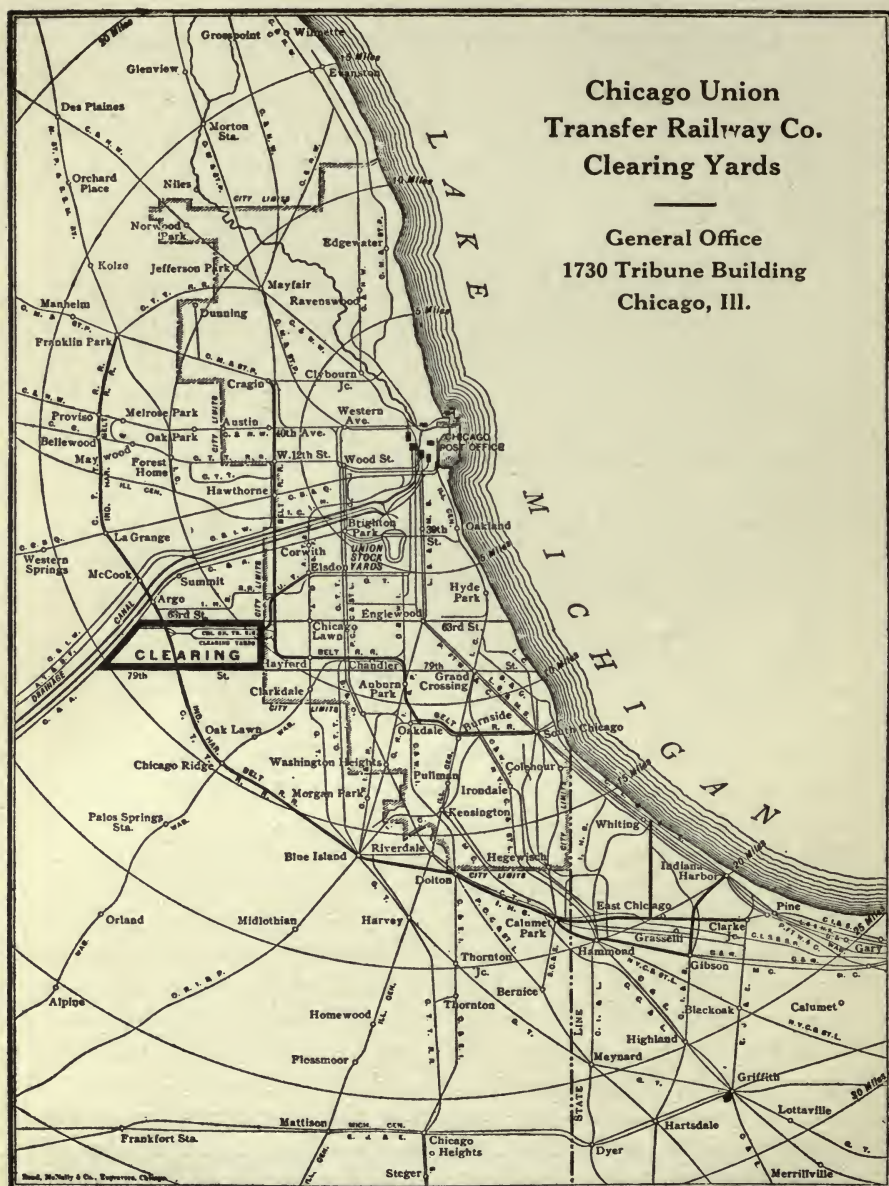
VII.

Chicago—Its Transportation Facilities

Lord Bacon uttered a great truth when he said, "There are three things which make a nation great and prosperous; a fertile soil, busy workshops and easy transportation for men and goods from place to place." Hon J. E. Ransdell, member of congress, gave his endorsement of that truth when he said, "The question of transportation is the most important one before the civilized world. The nation which solves it quickest is bound to win in the race for commercial supremacy." More to the direct point is the statement made in the Government report on the Isthmian Canal: "Whatever affects the transportation facilities of the Central West touches its economic life at the very center." Neither nations nor cities can ignore the question of transportation if growth and commercial supremacy are the ends to be sought. These assertions are all based on the lines of national progress since the vast improvements occasioned by improved waterways and the construction of railroads have lent such a stimulus to the movement of merchandise of all varieties to the markets of the world.

Within the last half century the industrial character of the United States has been radically changed and modified. In its colonial days the people were devoted almost exclusively to agricultural pursuits, looking to England for such manufactured products as they required. Following the revolutionary war, and the securing of their independence, national pride stimulated the people to supply their own requirements for manufactured goods from domestic industries. The progress made was comparatively slow because with the rude agricultural implements employed in the raising and harvesting of crops it required almost 90 per cent of the male population to raise the necessities of life. The sowing of wheat, which constituted the main article of food, the reaping of it with the old-fashioned cradle, and the threshing of it with a flail, required a very large percentage of the population to furnish food.

With the invention of the gang plow, the mower and reaper, the threshing machine and other agricultural implements the number of persons required to produce food dropped gradually to thirty-three per cent, releasing a very large number to enter the gainful pursuits and manufacturing began to assume importance and to supply many of the goods and merchandise that had previously been imported from



foreign countries. Cities sprang up along the streams and rivers where water-power was available. Gradually the character of the population was changed from agriculturists to handicraftsmen and mechanics, streams were improved, canals were dug for the conveyance of freight and railroads were built to furnish more general and rapid distribution of both the products of the mills and factories as well as of the field.

In those early days New England was the chief source of supply for manufactured goods, but with the growth of population the industrial center of the country followed the trend of population to the West. The manufacturing center of the country, based upon the gross valuation of manufactured products, has moved to the West with less rapidity than has the center of population and has pursued a course considerably north of that taken by immigration. In 1890 the industrial center of the country was seven or eight miles southwest of Canton, Ohio. In the next decade it had moved west about 75 miles to a point three miles south of Loudonville, in that state. It has not changed its course or the rapidity of its advance and is now in the vicinity of Marion, Ohio, rather north of that place.

Theoretically the industrial growth of a country is governed by the location of its natural resources and its natural lines of transportation.

The volume of the agricultural products of the territory adjacent to Chicago, and the natural outlet for them by way of the Great Lakes, created the necessity for a city of supplies at the southern extremity of Lake Michigan. The opening of the Erie Canal, in 1826, was the only requisite necessary to insure the large and rapid growth of Chicago, and to that waterway Chicago is chiefly indebted for its present position. But it required seven days to reach the Atlantic Seaboard and besides there remained a period each year of practically three months when this route was blocked by ice. Fortunately the era of railroad construction began when Chicago had assumed a commercial importance that made her the objective point for railway lines either east or west. The East demanded the wheat and corn from the prairies of Illinois and Iowa, and the West required the products of the Eastern mills, factories and forges and willingly "paid the freight" both ways as she has done ever since and is doing today. It was not the railroads that made Chicago, although they were important factors in its growth, but it was rather Chicago that made the railroads the great trunk lines they have in later years become.

The great impetus in railroad construction dates from about 1846, at which time the mileage of railroads then in operation was 4,930

miles, practically all of it being in the New England and middle states. There is now in operation in the country practically 240,000 miles of railroad, of which the following twenty-seven railways, making thirty-two main trunk lines, have terminals in Chicago. The aggregate mileage of these roads is 85,009.43 miles.

A. T. & S. Fe Ry. Co.....	7,613.08
Baltimore & Ohio R. R.....	4,433.02
Chicago & Western Indiana R. R.....	50.00
Chicago & Alton R. R.....	1,025.61
Chicago, Burlington & Quincy R. R.....	9,074.14
Chesapeake & Ohio R. R. of Indiana.....	2,241.60
Chicago & Eastern Illinois R. R.....	1,275.38
Chicago Great Western R. R.....	1,492.16
Chicago, Indianapolis & Louisville Ry.....	616.00
Chicago, Indiana & Southern R. R. Co.....	358.00
Chicago, Milwaukee & Puget Sound Ry.....	2,058.74
Chicago, Milwaukee & St. Paul Ry	7,511.56
Chicago & Northwestern Ry.....	7,761.90
Chicago, Rock Island & Pacific Ry.....	7,551.16
Cleveland, Cincinnati, Chicago & St. Louis Ry..	2,010.44
Chicago, Terre Haute & Southeastern Ry.....	326.00
Erie R. R.....	1,995.40
Grand Trunk Ry.....	4,711.00
Illinois Central R. R.....	4,755.25
Lake Shore & Michigan Southern Ry.....	1,719.26
Michigan Central R. R.....	1,804.77
Minneapolis, St. Paul & Sault Ste. Marie Ry..	3,769.64
New York, Chicago & St. Louis R. R.....	561.59
Pennsylvania R. R. Co.....	3,978.30
Pere Marquette R. R.....	2,333.20
P. C. C. & St. L. Ry. (Pan Handle).....	1,467.63
Wabash R. R.....	2,514.60
	85,009.43

There seems to be some difference of opinion, even among railway officials, as to what constitutes a "main trunk line" of railroad. While we have twenty-seven different railroad corporations they reach widely separated terminals east and west, north and south. The Financial Chronicle in its Railway and Industrial Section of July 29, 1911, in speaking of one of Chicago's belt roads, says that it connects "with all the thirty-two main trunk lines entering Chicago." A railroad with

one line reaching from Chicago to St. Paul, another to Galveston, another to New Mexico and another to Denver, although converging at and using the same track into Chicago, might properly be said to be made up of several main trunk lines.

Some of these railway corporations have branches, which serve as feeders, connecting with the main line, and this main line, with its feeders, or branches, make up what is known as a railway system. With the more or less remote terminals of these systems, Chicago is connected only by the main or trunk line which has its terminal in this city. For instance, the Chicago, Burlington & Quincy Railroad has a main, or trunk, line 9,074 miles in length. It also has branches with an aggregate mileage of 2,705 miles, forming a railway system of 11,779 miles.

The names and mileage of the railway systems having terminals in Chicago are:

	Miles.
A. T. & S. Fe.....	10,600.53
Baltimore & Ohio	5,568.97
Chesapeake & Ohio	2,594.10
Chicago & Northwestern	9,845.35
Chicago, Burlington & Quincy	11,779.11
Chicago, Milwaukee & St. Paul	9,737.55
Erie	2,567.08
Grand Trunk	5,247.00
Illinois Central	8,247.82
New York Central	13,341.74
Pennsylvania	11,198.62
Rock Island	8,157.86
St. Louis & San Francisco (Frisco)	7,524.67
Wabash	3,085.10
	109,495.50

Chicago terminals reach every section of the United States, and one or more through passenger and freight trains pass daily between Chicago and Portland, Oregon, Seattle, San Francisco, Los Angeles, El Paso, Galveston, New Orleans, Mobile, Jacksonville, Baltimore, Newport, Va., Philadelphia, New York, Boston, Portland, Me., Québec, Montreal, Duluth, Winnipeg and intermediate points.

There is no city on the earth that has so vast a range of territory with which it is brought into daily contract as Chicago and, when the distribution of its manufactories and commercial establishments are

concerned no other center can reach so large a number of both consumers and producers as can the City of Chicago.

Another large feature of this situation is that no railroad or railway system runs a train through this city—all trains stop here, and are made up here for the journey or shipments beyond. Chicago is the absolute terminal of every railroad train that enters it. This gives Chicago shipping facilities that have no equal anywhere in the world.

Besides these large systems there are thirteen belt or transfer lines used in the exchange of freight from one road to another, and from and to shippers.

BELT OR TRANSFER RAILROADS.

	Miles.
1. Baltimore & Ohio Chicago Terminal R. R.	289.00
2. Belt Railway of Chicago	101.44
3. Chicago Junction Railway	203.00
4. Chicago River & Indiana R. R.	50.00
5. Chicago Union Transfer Railway	100.00
6. Chicago, West Pullman & Southern R. R.	10.00
7. Chicago & Calumet River Ry.	12.00
8. Elgin, Joliet & Eastern Ry.	198.53
9. Indiana Harbor Belt R. R.	108.60
10. Illinois Northern Ry.	12.00
11. Manufacturers Junction Ry.	3.03
12. Chicago Short Line	17.80
13. Chicago & Illinois Western.	54.00
	1,159.40

This makes the total railroad mileage of Chicago 86,168.83 miles

A tentative switching arrangement is in effect within the switching limits of Chicago, the purpose of which is to equalize rates on traffic moving in and out of the city.

This arrangement is reciprocal by agreement between the railroads under the terms of which carriers apply Chicago rates on all carload traffic to and from all industries, warehouses and elevators having private sidings regardless of where located, provided only that such location is within the Chicago district and charges amount to \$15.00 per car or more. This application of Chicago rates is provided for by the line bringing the traffic into or taking the traffic out of the city absorbing such connecting line switching charges as may be necessary to make delivery to or receive from industry, warehouse or elevator from or to which traffic moves. In other words, irrespective of what

part of the Chicago switching district an industry is located in, the Chicago rates apply and switching charges are paid out of its earnings by the line hauling the traffic.

The above is the general plan. There are, of course, exceptions and included in the arrangement are certain other agreements among the railroads as to charges to be assessed for performing switching service, etc.

Significant as this array of facts regarding Chicago's transportation facilities, it does not take into account the additional advantages given by water transportation on the Great Lakes. From the port of Chicago the seventeen steamship lines send their vessels to all points between Buffalo and Duluth. These are the Anchor Line; Benton Transit Co.; Canada Atlantic Transit Co.; Chicago & Duluth Transportation Co.; Chicago & South Haven Steamship Co.; Chicago, Racine & Milwaukee Line; Crawford Transportation Co.; Erie & Western Transportation Co.; Goodrich Transit Co.; Graham & Morton Transportation Co.; Hill Steamboat Line; Indiana Transportation Co.; Ludington Transportation Co.; Michigan, Indiana & Illinois Line; Northern Michigan Transportation Co.; Northern Steamship Co.; Western Transit Co.

The volume of the passenger traffic by these lines has been rapidly increasing within the last decade. From data given out by the department of Commerce and Labor it appears that during the season of 1911 the number of passengers carried on the Great Lakes, west of Toledo and Detroit, was 12,601,097, nearly all of whom were tourists. Commenting upon this rather surprising evidence of the growing popularity of the Great Lakes with Summer Tourists a Boston paper says: "A remarkable thing is that the Great Lakes seem to attract this patronage naturally. Except as a side issue, little is done to promote lake travel. This may be said with full regard for the fact that some handsome passenger vessels ply between the larger cities and Summer resorts, and without losing sight of the fact that excursions out of large cities are numerous during the months of pleasant sailing. But even these draw by their own attractive force."

The extent of this lake commerce is shown by the year's business at the port of Chicago for 1911, which was as follows: Arrivals, 5,924; registered tonnage, 7,935,969; clearances, 5,954; registered tonnage, 8,021,036. Arrivals and clearances, 11,878; registered tonnage, 15,957,008. The cargo tonnage in 1909 was 10,379,759, and in 1910, 11,527,631. The principal receipts in 1911 were: Hard coal, 969,231 tons; soft coal, 560,093 tons; salt, 209,134 tons; iron ore, 4,086,276

tons; lumber, 280,195 tons; posts, 168,264; railroad ties, 726,050; sugar, 81,828 tons; wheat, 641,883 bushels; merchandise, 781,206 tons. The principal shipments were: Flour, 2,837,725 barrels; wheat, 14,508,973 bushels; corn, 47,964,539 bushels; oats, 10,759,852 bushels; oil, 643,179 barrels; merchandise, 461,845 tons; oil cake, 10,002 tons; manufactured iron 60,015 tons.

The rapid increase of the lake commerce has demonstrated the necessity for enlarged facilities in handling freight and passengers during the navigation period. When a 200-foot freighter was about the limit of the lake steamers, short turns in the river, bridges and the like were not a menace to navigating the river. But now with freighters over 600 feet in length, and carrying 18,000 tons of freight, shallow water, bridges and short curves in the branches of the Chicago river have been menaces to the business of the port. It has been decided to build an outer harbor for the receipt and transshipment of freight and passengers.

Four outer harbor sites along Chicago's lake front were established by the City Council in November, 1911, the ordinances providing for the following districts:

No. 1. From the mouth of Chicago river north to Chicago Avenue and extending one mile into Lake Michigan.

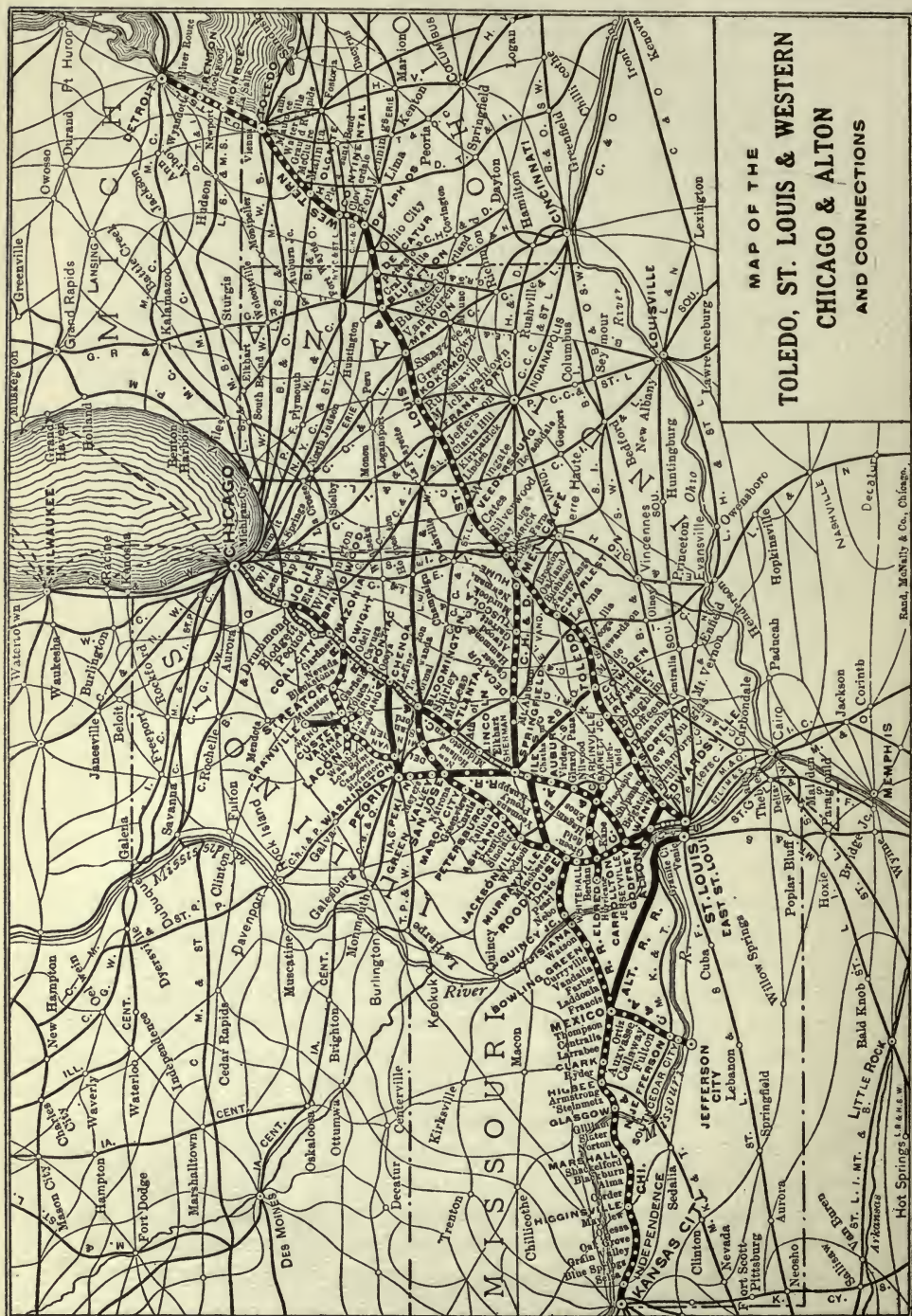
No. 2. From the mouth of Chicago river south to Randolph Street and extending one mile into the lake.

No. 3. From the south end of Grant Park south to Thirty-first Street and extending one mile into the lake.

No. 4. All of the Calumet river within this city and all of Lake Calumet.

Another ordinance was presented at the same time providing for a fifth district along the south shore, through which vessels will have to pass before entering the inner harbor designated as District No. 4. Preliminary plans for the harbor have been prepared by the engineering corps of the city and the harbor will be constructed. These harbors will be for the handling of passengers and package freight, an industrial harbor for heavy freight, like coal, lumber, iron ore and the like will be provided elsewhere. With these necessary improvements completed Chicago will have the finest inland harbor in the world.

Another project which will add greatly to the importance of Chicago's commerce will be the completion of the Lakes-to-the-Gulf Deep Waterway, which is certain to be constructed. The Middle West, of



which Chicago is the commercial center, is the greatest freight producing region in the world, its annual tonnage being estimated at 22,000,000,000 tons. It is 4,000 miles in width from east to west and about 2,000 miles in length from north to south. It has 54 navigable waterways having a mileage of 13,869 miles. Upon the opening of the Panama Canal this vast area, as large as Germany and France combined, must be depended upon to furnish the larger portion of the tonnage for that artificial water course.

It is impossible to estimate, with any degree of accuracy, the great advantages that will accrue to Chicago from the increase of its transportation facilities by the completion of the Lakes-to-the-Gulf Deep Waterway. While the entire Middle West is gridironed with railroads, all of which are directly tributary to this city, nothing is required so much as some means that will equalize the rates of transportation throughout the entire Mississippi Valley and which will, at the same time, prevent the congestion of traffic at terminal points, which is now of very frequent occurrence. Rapid as has been the construction of railways in the West the roads have not kept pace with the enormous industrial and agricultural development in this section of the United States and the result has been that business has been badly crippled by the inadequacy of far-reaching transportation. Valuable and important as the railroads are in this movement of property and persons, they cannot meet the growing requirements of the business interests because of the vast outlay required and the time demanded for such expansion of facilities even if the money to complete it was in hand. If existing transportation facilities have been the chief factors in the building of this city, what would be the effect of adding to the present highways of commerce 16,000 miles of waterways which the improvement of the navigable streams in the Middle West would give Chicago? The completion of the Lakes-to-the-Gulf Deep Waterway would bring tide water to the shores of Lake Michigan and by utilizing the iron, coal and lumber so easily assembled there, would enable Chicago to compete with the Clyde in the industry of building steel ships for both commercial and naval purposes. This is far less of a dream now than Chicago itself was fifty years ago.

It is not necessary to speculate in the results to Chicago as an industrial and commercial center which will follow the completion of the Panama Canal. Keen observers, like James J. Hill, are making large investment in preparation for that event. The trade of the Orient will mean to the Pacific coast what European commerce has meant to the Atlantic seaboard, and Mr. Hill gives it as his conviction that "When the Pacific coast states shall have a population of 20,000,000, as they will, then Chicago will be the largest city in the World."



VIII.

Chicago—Its Intramural Transportation

Rapid transit within the limits of a city is as important as within the boundaries of a state or a nation. In fact it is more so because it is more frequently used and by a larger number of people than are such lines between adjacent cities or states. The cost of such conveyance also enters more largely into the daily expenditures of the individual and thus more closely touch the daily expenditures of the family. It is not necessary that such lines of conveyance should connect the limits with the business, or commercial, center, important as that may be, but it is essential that they should connect the homes of the laboring population with the industrial districts where they are employed. There should be ample facilities for what may be called "cross town" conveyance, which connect the industrial districts with the homes of the working classes employed therein. This not only enables the manufacturers to secure a steady supply of operatives, but makes it possible to secure temporary additional workmen if his business requires such extra help. In addition to this, his works, be they large or small, should also be in close touch with the financial and commercial center of the city. In either case the means of transit furnished to the people by the various lines of communication between different sections of the city has a very important bearing on the ease and dispatch with which business can be transacted.

There is no section of the city, however remote from the loop district, which is the business center of Chicago, that is not easily and expeditiously reached by some one of the surface or elevated lines of railway, nearly all of which extend to the suburbs adjacent to, and beyond, the city limits. More than thirty cities, towns and villages, outside of the city limits, can be reached any hour of the day or night by some one of the means of conveyance that are in operation, at very reasonable rates of fare. The cost of such conveyance is not appreciated by persons not familiar with the conditions in Chicago. Not long ago a party of strangers were occupying the smoking compartment of a west-bound passenger train. One of the party was a New Yorker and he was astonishing his companions by telling how far a person could ride in his home city on the street cars for a nickel. In the party was a Chicago resident, and after hearing the New Yorker's story, he said: "That is nothing. In Chicago I can ride more than twenty-five miles for a nickel." The New Yorker was nonplused, and rising

from his seat, extended his hand and said: "Shake; I am glad to meet the president of the Ananias Club," and left the compartment. The truth is that the Chicagoan considerably understated the actual facts. By the system of transfers in vogue in Chicago, it is easily possible to ride more than twenty-five miles for a single fare of five cents. In fact a person can journey from Howard Avenue, the northern limits of Chicago, to Blue Island, a distance of twenty-eight miles, for a single fare of five cents.

So far as rapidity of transit is concerned the elevated roads are entitled to first consideration. There are four of these systems in operation which reach the remote sections of each division of the city, all passing around the "loop" in the center of the wholesale, retail and financial districts of the city. This loop is double tracked and is approximately a mile in length and half a mile in width. Each of the elevated roads runs its trains around this loop, the intervals between them from two minutes apart during the "rush hours" (from 4:30 to 6:30 in the evening and from 6:30 to 8:30 in the morning) and at longer intervals at other hours of the day and night. As the trains run upon an elevated structure they are not delayed by street congestions. The fare is five cents to the end of the line, except on one of them, reaching Evanston (a distance of twelve miles), the fare is ten cents. During the rush hours express trains are run, which stop only at principal stations, thus reducing the time between the loop and extreme points on the lines.

The Northwestern elevated has a mileage of 18.14 miles, extending from Evanston, on the lake shore north of the city, with a line to Ravenswood. During the "rush hours" trains move at intervals of two and four minutes and after midnight once in thirty-five minutes.

The South Side elevated, with its branches, has a mileage of 16.24 miles, with branches to Jackson Park, Kenwood, Englewood and the Union Stock Yards. Trains move at intervals of three to twenty minutes, according to the hour of the day.

The Metropolitan elevated has a mileage of 22.39 miles and reaches each of the great west side parks—Garfield, Douglas, Humboldt and Logan Square—moving its trains at intervals of from three to thirty minutes.

The Chicago & Oak Park elevated, with a mileage of 10.40 miles, reaching Garfield Park and Oak Park, with trains at intervals from two to forty minutes, according to the demands of the traffic.

On each of these roads the trackage is approximately double the mileage.

These four roads, with the Union Loop, have a mileage of 69.19 miles and are capitalized at \$95,000,000.

The service to the public is singularly good, although at the "rush hours" the cars are over-crowded, but they are large, clean, well ventilated and comfortably warm in the winter months.

The surface, or trolley lines reach each section of the south, north and west divisions of the city, a territory twenty-six miles long and nine miles in width. The lines are controlled by two companies, the Chicago Railways Company and the Chicago City Railway Company, having an aggregate mileage of nearly 915 miles, valued at \$125,-000,000.

From the "loop" something like twenty main trunk lines of these surface roads radiate, most of them taking cars of one or more connecting sub-trunk lines which are dropped off at junction points and proceed to their destination. The interchange of transfers between crossing lines is very general. As a single instance of the value of these transfers the case may be cited where a person can ride from Seventy-ninth Street, in the south division of the city, to the extreme limits of the north division, a distance of 19½ miles, for a single fare of five cents, and on some lines it is possible to ride a still longer distance, as from the north limits to Maywood, nearly four miles west of the city limits, a distance of over twenty-three miles.

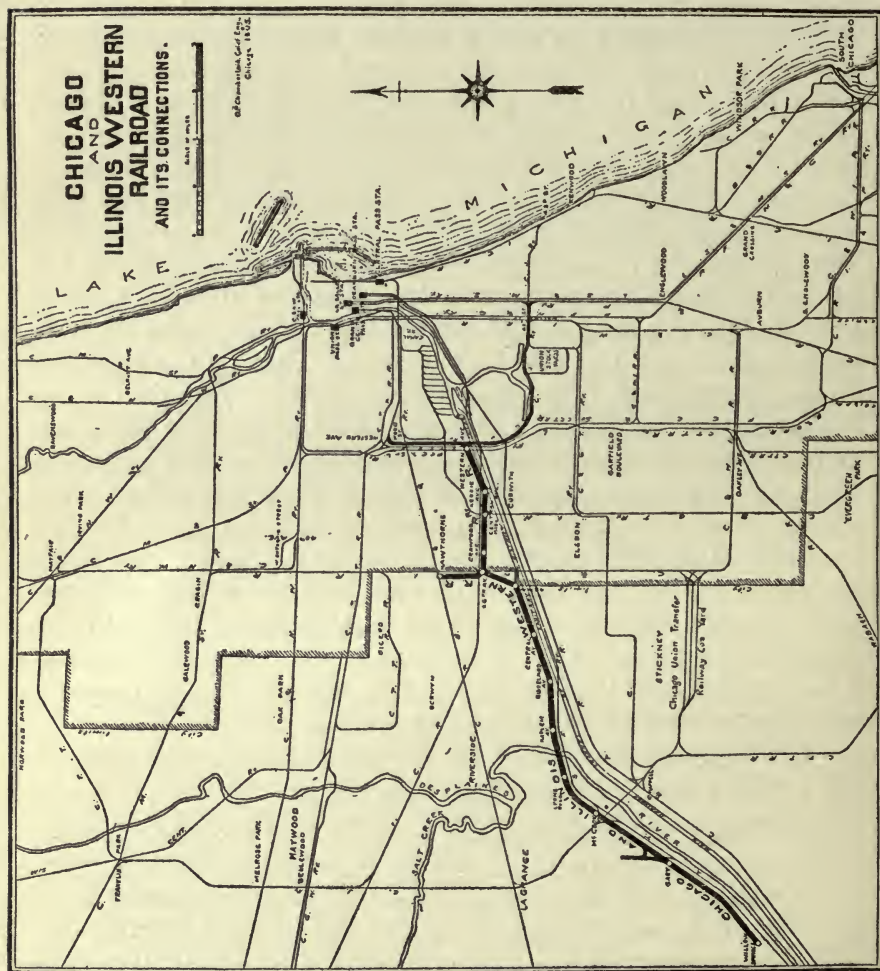
Besides these means of conveyance, steam railroads operate trains during the day between nearby suburban villages and their passenger stations in the business center. Four of these roads run 850 trains daily in this service, and, as will be seen by the following table, carry a very large number of passengers, at commutation rates, that are very near those of the elevated and surface roads.

The following table shows the number of passengers carried by these various lines of transportation in 1911:

Chicago City Railway Co.	338,566,525
Chicago Railways Co.	488,490,104
Calumet & South Chicago	26,729,060
Northwestern "L"	44,471,566
Metropolitan "L"	56,125,075
South Side "L"	40,751,028
Chicago & Oak Park "L".....	16,346,278
Suburban Steam Roads	47,465,718

Total for the year.....1,058,945,354

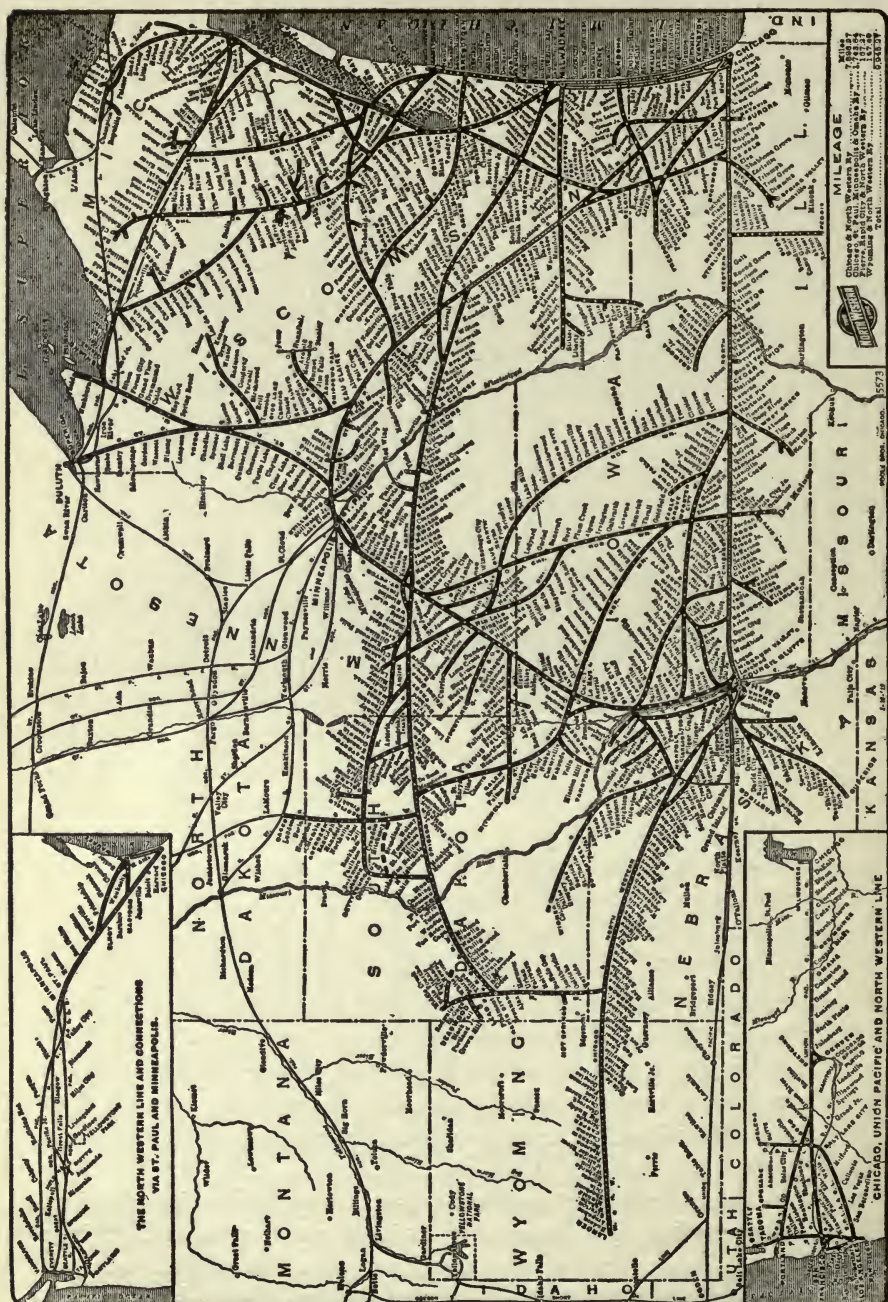
or an average of 2,901,220 each day of the year.



In addition to the passenger traffic of these various lines, there are five electric interurban roads, as follows, with their mileage: The Aurora, Elgin & Chicago, 67 miles; the Chicago & Joliet, 30 miles; the Chicago & Southern, 72 miles; the Chicago, Lake Shore & South Bend, 90 miles; and the Chicago & Milwaukee, 90 miles. Only one of these, the Aurora, Elgin & Chicago, runs to the loop district, the others connecting with elevated or surface roads, by which passengers are conveyed to the business center. These important lines connect forty-five cities, besides a large number of growing towns and villages, with Chicago. The number of passengers carried by these interurban lines is not available and it is probable that a large fraction of them is included in the number carried by the surface and elevated roads with which they connect.

Everyone who is familiar with the foreign population of this country understands that it is gregarious, the different races, very generally, forming communities by themselves, and Chicago is no exception to that rule. Every manufacturer has learned by experience that one race is better adapted to the work he has to have done than any other. The question of local transportation is therefore an important one for him because, with practically unrestricted facilities for the conveyance for his employes, he is always within easy reach of the people he employs, especially at such times as the exigencies of his business require additional operatives for short periods. The traction and elevated lines leave no section of the city unsupplied and if the employer knows where the kind of labor he seeks is concentrated, he has no difficulty in reaching and securing it. The English, Scotch and Irish are very well distributed throughout the city, but the Germans are numerous in the 24th, 26th and 27th wards; the Poles in the 16th and 29th, the Swedes in the 25th and 26th, the Russians in the 9th, 10th, 15th, 19th and 20th, the Bohemians in the 10th, 12th, 29th and 34th chiefly, the Italians in the 17th, 19th and 22nd, and the Norwegians in the 15th, 28th and 35th wards.

More important than these last mentioned, as directly affecting the comforts of the people, are the numerous steamers on the lake that give daily excursions in the summer months reaching to ports on the west shore of Michigan. That state abounds in lakes and summer resorts of great beauty, at which thousands of Chicago people spend the months of July and August. As a rule, the exodus to Michigan and Wisconsin resorts begins with the close of the public schools. The families live in neat cottages on the shores of some lake and the children "run wild" through the summer. The head of the family



can leave the city on some Friday evening steamer and be with his family Saturday and Sunday, and returning Sunday night, can be in his office Monday morning at his usual hour. Twelve lines of these lake steamers have their home port at Chicago, and serve to make this city one of the most delightful summer cities in the country. The economy with which homes can be maintained in these near-by summer resorts is due to the low rates of fare on the lake steamers, the cheapness of family supplies in both Michigan and Wisconsin, and the very short distance one has to travel to reach them.

Abundant means of transportation, at reasonable cost, both to the city limits and the adjacent country, is highly prized by those who reside here as well as by those who make Chicago their headquarters while visiting the resorts with which it is in close touch.

Convenient and necessary as are the public utilities for the conveyance of passengers to various parts of the city they cannot take the place of the private carriage or automobile for the use of those whose means permit them to employ the more expensive methods of transference. But the vehicle, whatever it may be, has its use limited by street conditions.

The problems of street improvement in Chicago have been many but they have not been serious. The level surface of the territory has made thorough drainage imperative, but perfect sewage has not been difficult in any way, other than the financing of the work. The land area within the city limits embraces 114,932 acres, in which there are 4,303 miles of streets. Of this aggregate, 1,628 miles have been paved and improved, leaving 2,675 miles of what may be called "country roads."

By far the greater portion of the unimproved streets are in the extreme southwestern and northwestern sections of the city, where the land, if used for any purpose, is devoted to agriculture. In the populated sections of the city the streets are, almost universally, improved or paved with asphaltum, macadam, or brick, while splendid highways lead to all the surrounding cities, like Milwaukee, Madison, Indianapolis, Detroit, Springfield, Des Moines, St. Paul and intermediate towns.

To show how well Chicago has done in the matter of providing excellent highways for pleasure riding or teaming it may be said that we have more than 300 more miles of improved and paved streets than has Philadelphia; twice as many as St. Louis; more than three times as many as Boston or Baltimore; nearly four times as many

as Pittsburgh, and more than five times as many as Washington (this data is taken from Census Bulletin Number 105).

The use that pleasure seekers make of our paved streets is shown by the fact that there are more than 10,000 automobiles owned in Chicago and suburbs, and no more delightful trip can be anywhere taken by carriage than from Jackson Park, through Douglas, Garfield and Humboldt parks, to Lincoln Park, a distance of about thirty miles, every foot of which is over a wide, well-shaded and paved boulevard.

The importance of improved streets in the transportation of goods and merchandise, as well as for pleasure, cannot be exaggerated. The cost of drayage is reduced to a minimum by the aid of level and improved streets. We have no hills to climb and there is no freight terminal station located on any railroad that is not accessible at all times of the year by a road that is dry and smooth.

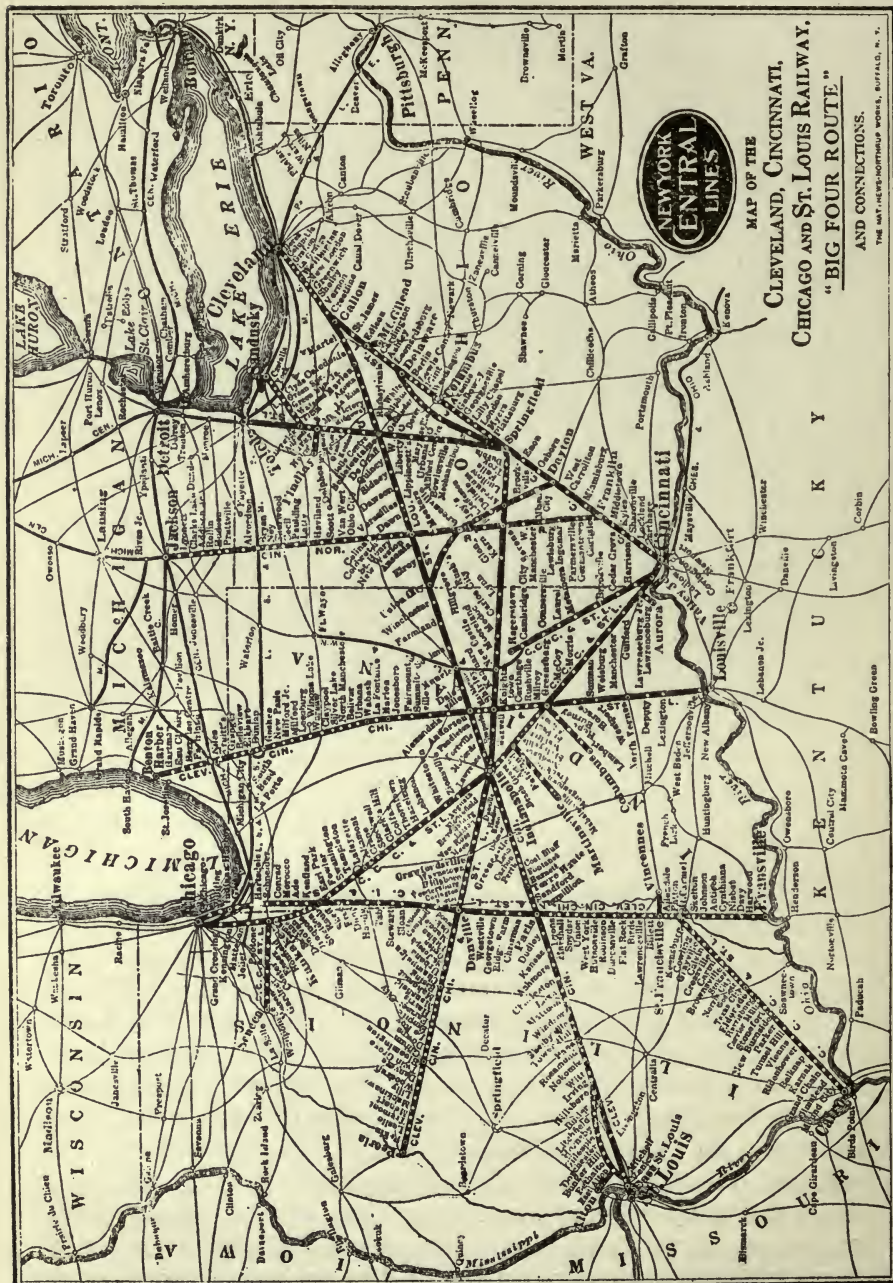
IX.

Chicago—Its Business Utilities

Given an adequate market, the chief factor in the successful conduct of business operations is the economy with which they can be carried on. The expenses of conducting commercial and industrial enterprises may be classified under two general heads, viz.: first, fixed charges, like overhead expenses; superintendence; officers' salaries; compensation paid clerks; taxes; insurance; general wear and tear; repairs; and, second, such general manufacturing expenses as labor and materials. The former go into the account for general expenses while the latter are figured in the cost of the product.

But there are other conditions beside capital and ability that are essential to the highest success of industrial and commercial enterprises, important as those may be to business prosperity. As a rule these utilities are a public asset and wholly beyond the control of the individual or corporation. They may be either natural or created by the insistent demands of the people who constitute the majority of the population of a metropolis, but they serve as an important, if not as a dominating, factor in the commercial advancement of a city, and also have a weighty influence on the success with which business enterprises may be conducted. These are banking facilities; good streets and roads; fire and police protection; postal, telegraph and telephone service; educational advantages; library conveniences; the religious and moral status of the community; recreation privileges and many other factors that influence commercial life. These all depend upon the general character and intelligence of the people, but they must be taken into account in seeking a location for home or business as well as the more material adjuncts that pertain solely to trade and commerce. These adjuncts of business and the domestic life of the citizens are discussed in other sections of this volume.

In the fixed charges, one important item that materially affects expenses is the cost of living, which is discussed in another section of this volume under a special heading. The general manufacturing expenses are influenced by a very large number of conditions, which are beyond the control of the manufacturer. Upon the subject of raw material, reference is made to a preceding section of this volume, in which that subject is elaborated upon. The effect of abundant raw material is shown in the cost of erecting building plants, which is approximately twenty per cent less in Chicago than in cities where such products are less abundant.



For the creation of power, heat and light, coal is the principal material used whether the plant is operated by steam or electric energy. There are in Illinois 102 counties of which 55, or more than one-half, are within the bituminous coal area of the state and produce that commodity for commercial purposes. These counties have 933 mines, yielding about 50,000,000 tons annually. They ship mine run, lump, egg, nut, pea and slack product, the average value of which, at the mine, is \$1.037 per ton, varying from \$1.296 to \$0.336 per ton. The best qualities of this coal delivered in Chicago varies in price from \$1.40 to \$2.00 a ton; coal of equal value selling, in Atlantic seaboard cities, at from \$3.00 to \$3.50 a ton. This advantage possessed by Chicago is of vast importance in manufacturing, whether the plant is operated by steam or electric power. Some of our electric power plants use thousands of tons daily of coal in the driving of dynamos, and cheap coal results, materially, in economical electric power and light. One Chicago electric company has two electric power plants which have a combined capacity of 360,000 horse-power, which consume two and one-half tons of coal and evaporate seventeen tons of water each minute. Another has four generating stations which cover 145 acres of ground. It has 120,000 customers. The connected load, as expressed in the equivalent of 16-candle-power incandescent lamps, is 8,144,000.

Electric power is cheaper in Chicago than in any other American city. As an illustration of its low cost, it may be said that the power for the Joliet penitentiary was recently contracted for at one cent per kilowatt hour. The power is sold on a sliding scale and any consumer can purchase it at that price, or even less, provided the consumption justifies so low a rate.

The subject of taxation is one which cannot be ignored in estimating the cost of doing business. It is a little difficult to give the amount of taxes levied upon a given quantity of property because all cities do not use the same basis for assessment. Some levy taxes upon a full cash valuation; others upon one-third, and others still, upon one-fifth. In some cities street improvements are paid for out of the general fund while in others they are provided for by the levying of special assessments, according to benefits received, upon abutting or adjacent property. This last condition does not relieve the property owner for in one case he pays the expense out of his own pocket directly, while in the other, he pays it into the city treasury as a portion of his taxes.

The Census Bureau, in September, 1908, issued a bulletin (the latest official report upon this subject) entitled "Statistics of Cities

Having a Population of over 30,000 in 1906," on page 281 of which is given rates of taxes per \$1,000. The following table shows that the rate in the fifteen cities of the United States that are credited, in the bulletin, with a population of 300,000 or over:

City	Rate of tax Per \$1,000
New York	\$13.59
Chicago	8.06
Philadelphia	14.55
St. Louis	8.70
Boston	14.92
Baltimore	18.78
Cleveland	16.31
Buffalo	14.64
Pittsburgh	14.55
San Francisco	4.88
Detroit	15.46
Cincinnati	10.75
Milwaukee	9.35
New Orleans	16.50
Washington	10.26

In Chicago the cost of street improvements is paid by special assessment and not out of the general treasury. This is the case of some others of the listed cities. At the time these statistics were compiled, San Francisco had not reached its normal condition since the disaster of that year.

The following table shows the taxes levied during 1907, 1908, 1909, 1910 and 1911, in the different towns making up the city of Chicago per \$1,000.

	1907	1908	1909	1910	1911
West Chicago.....	\$7.70	\$7.98	\$4.91	\$4.95	\$5.39
South Chicago.....	7.20	7.52	4.47	4.64	5.06
North Chicago.....	7.57	7.84	4.84	4.88	5.21
Hyde Park.....	7.20	7.52	4.47	4.64	5.06
Lake.....	7.20	7.52	4.47	4.64	5.06
Lake View.....	7.71	8.00	5.05	5.01	5.01
Jefferson.....	6.48	6.74	4.03	4.13	4.13

In 1907 and 1908 property was assessed at one-fifth its cash value but the state law was changed that year requiring the levy to be made in future on one-third of the cash value. The reason why one section of the city has a higher rate than another is due to the different sums expended on parks. This park tax varied from forty-four cents to \$1.26 in the different towns. With \$500,000 or \$1,000 (more or less) invested in a manufacturing plant any one can estimate the amount he would save in taxes alone if his establishment was located in Chicago rather than in any of the cities included in the foregoing list.

One reason for the comparatively low rate of taxation in Chicago is the small gross debt of the city, the small debt per capita and the very light interest tax per capita. The following table gives the statistics issued by the Census Bureau:

City	Gross Debt	Debt Per Capita	Interest Per Capita
New York.....	\$798,679,054	\$189.01	\$4.58
Chicago.....	84,449,874	40.07	1.28
Philâdelphia.....	74,387,488	50.73	1.33
St. Louis.....	18,640,951	28.17	1.20
Boston.....	105,092,706	172.52	6.68
Baltimore.....	48,070,933	85.67	2.15
Pittsburgh.....	42,813,778	80.55	2.39
Cleveland.....	32,844,514	69.02	2.39
Buffalo.....	22,464,303	58.09	1.83
San Francisco.....	4,922,983	Not computed	
Detroit.....	12,250,942	33.34	0.86
Cincinnati.....	50,516,043	145.53	3.96
Milwaukee.....	10,656,231	33.04	1.08
New Orleans.....	28,188,326	88.46	2.63
Washington.....	14,296,893	45.74	1.54

The indebtedness of the city of Chicago was, on the 2nd day of January, 1912, as follows, officially reported.

Bonds (general)	\$24,941,000.00
Bonds (Water)	3,273,000.00
Judgments	1,395.87
Accrued interest (corporate)	140,833.10
Water fund debt	1,214,153.73

\$29,570,382.70

Less sinking funds

2,740,734.98

Total debt, January 2nd, 1912.....

\$26,829,647.72

Map of the ELGIN JOLIET AND EASTERN RY.

CHICAGO OUTER BELT LINE

AND CONNECTIONS.

SCALE OF MILES.

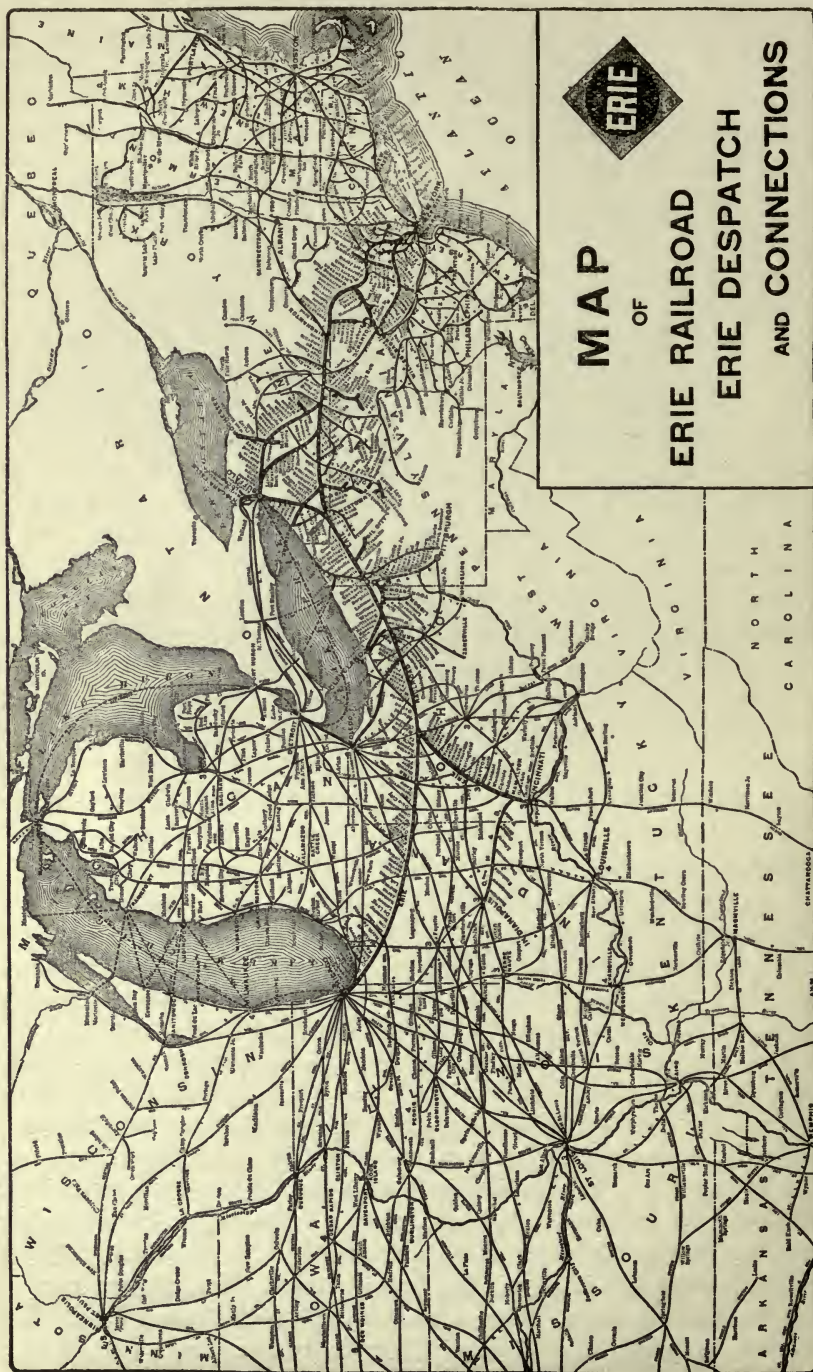
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This does not include \$3,155,000 bonds, for building bridges to replace old ones, voted by the people in 1911, but not yet issued. In 1911 the city paid for interest on its bonded debt \$1,285,741. The unexercised borrowing power of the city under state law, is \$19,-619,062.48.

The expenses incident to drayage make a heavy demand upon both manufacturer and merchant. There is more freight transported upon drays in Chicago than in any other American city, a recent magazine writer putting the tonnage so carried in Philadelphia and Boston at 65,000 tons each daily; in New York about 75,000 tons, and in Chicago about 100,000 tons. The writer says "figure the millions upon millions that are spent each year by the merchants and manufacturers for this service, the thousands of men to whom they give employment and the millions of dollars that are tied up in horses, trucks, harnesses and stables, and the total is almost inconceivable." Not long ago an investigator in this city made a careful estimate of the amount expended annually by the business men of this city for the transfer of their goods through the streets of Chicago and found that it aggregated a sum larger than that received annually by one of our largest trunk lines of railway for the transportation of freight over its entire system.

But so far as Chicago is concerned, this heavy drain upon business is being rapidly eliminated. There has been constructed in the city more than 60 miles of tunnels, underlying the entire down-town district, and connecting the wholesale business houses and manufactories within that area with every railway freight station in the business center. In other cities the subways are for the transportation of passengers, leaving the streets to the drays, but in Chicago the tunnel is for the conveyance of freight, ashes, coal, etc., reserving the surface for the people. Most of the 60 miles of these tunnels are six feet wide and seven and a half feet high, the roof forming an arch. There are however, what are known as trunk tunnels, which are about twelve feet high and from ten to fourteen feet wide. In fixing the size of the tunnels the city council took into consideration that they must be made high and wide enough for a man to work in comfortably, and with not only ample space for the suspension of the telephone wires from the roof and side walls, but also space for the future growth of the system. It was stipulated that the tunnels were to be about forty feet under ground, and this plan has been followed, thus bringing the tops of the tunnels about thirty-three feet below the street level. The tunnels go under the Chicago River in twelve places and at such



crossings they are about 60 feet below the surface of the stream. By placing the tunnels at this depth below the street level, the sewers, water and other pipes, which fill up a city's streets, were all avoided, and there was also left ample room above the tops of the tunnels for the construction of a subway system for the street car traffic of the city in case it was ever determined to build one. The Tunnel Company cannot carry passengers through its bores, under its franchise, but transports freight, inbound and outbound, delivers coal and removes ashes and other debris and rubbish. The cars, operated by electricity entirely, have a capacity of three tons each and are drawn to the elevators directly underneath the establishment to be served; where they are loaded or unloaded as may be desired.

This tunnel system is of benefit to business in two principal ways: first, it relieves the merchants and manufacturers of all cost of drayage, the railroads, to which the goods are delivered or from which they are received, paying the company such charge, which is small in comparison with the expense of drayage with horses, and the convenience and economy to the railroads themselves; second, it enables jobbers and producers to carry on their business for the entire twenty-four hours of the day, instead of eight or ten hours, as formerly. The old system was to pack goods in the afternoon and leave them for delivery at the freight stations the day following. Under the tunnel system, a car is, late in the afternoon, placed in the basement; the boxes or bales are lowered to the tracks, forty feet beneath the sidewalk; transferred to the railway car at the freight station and, before nightfall, the goods are on their way to their destination.

Another means for the economical handling and exchange of freight, both from shippers and from one railroad or station to another, is the various belt lines of railroads which intersect the tracks of the roads centering at Chicago and collect and distribute in-coming freight among the various terminals at which it is to be delivered to the consignee, or out-going freight to the terminal of the road over which it is to be conveyed to its destination. This arrangement saves not only a vast amount of drayage expense, but time in the expeditious handling of freight of all kinds, especially that class known as L. C. L. (less than carload lots).

In the chapter on transportation facilities in this volume will be found a list of these belt lines, or switching roads, while interspersed in the pages of the book are maps of these roads, or tracks, showing with which railroad lines, and at what points, they connect.

No city or market in the world has the facilities for handling the out-of-town business as expeditiously and economically as it is done in Chicago.

Banking facilities are one of the prime essentials to a great market and industrial center. There is no pretense that, in this particular, Chicago has advantages over every other American city of equal size, but it is confidently asserted that no city has better or stronger banking conveniences to meet successfully all demands of honest and legitimate business that may be made, than are possessed by Chicago. There are in this city, besides private bankers' institutions, sixty-three banks of which thirteen are national and fifty are state corporations. The standing of these banks December 5, 1911, was as follows:

	Deposits	Loans	Resources
National.....	\$443,102,882	\$303,017,688	\$ 534,399,132
State.....	491,126,347	313,237,418	567,653,465
Total.....	\$934,229,229	\$616,255,106	\$1,102,052,597

For protection against fire, no city in the country has more ample provision. No leading fire, or life, insurance company, that does an agency business, is without a Chicago office, and rates do not differ materially from those required in many other sections of the United States. The city fire department is one of the strongest in the country. It has a force of 1,879 men, 117 engine companies, 34 hook and ladder companies, 733 horses, 4 fire boats, 1 water tower, 126 fire engines, 151 hose wagons and carriages, 43 hook and ladder trucks, 43 chemical extinguishers, 189 portable pumps, with various other appliances for for the protection of property against loss or damage by fire.

In all the essentials required for the safe and successful management of industrial or commercial operations, there is no city on this continent that can claim precedence over Chicago. It is not the intention, in dealing with this subject, to enumerate inconsequential details in the matter of advantages, but to show natural conditions and supplemented instrumentalities that are most important in successfully conducting business operations. Possessing these, minor advantages take care of themselves.

The volume of business and its conditions are indicated more clearly by the bank clearings than in any other manner and the following table shows the growth of such transactions.

1883	\$ 2,517,371,581	1898	\$ 5,517,335,476
1884	2,259,680,391	1899	6,612,313,611
1885	2,318,579,003	1900	6,799,535,589
1886	2,604,762,912	1901	7,756,372,455
1887	2,969,216,210	1902	8,394,872,135
1888	3,163,774,462	1903	8,755,553,649
1889	3,379,925,188	1904	8,989,983,764
1890	4,093,145,904	1905	10,191,765,732
1891	4,456,885,203	1906	11,047,311,894
1892	5,135,771,187	1907	12,087,647,870
1893	4,676,196,969	1908	11,853,814,943
1894	4,315,440,476	1909	13,781,843,612
1895	4,614,979,203	1910	13,939,689,984
1896	4,413,054,108	1911	13,925,709,802
1897	4,575,693,340		

X.

Chicago—The Association of Commerce

The growth of commercial, industrial or improvement organizations in this country is one of the curiosities of urban development. There are, indeed, few cities, however small, which do not have local organizations that are devoted to the encouragement of the business of the community and the increase of its population. These associations have been instrumental not only in the stimulation of business of all kinds, but in the fostering of civic pride, the promotion of educational facilities, but also the promotion of every agency that had for its purpose the betterment of the moral, social and intellectual conditions of the community as a whole.

One of the very earliest of these organizations had its inception in this city and from this germ has grown the Chicago Association of Commerce, which has become one of the largest and most energetic guilds in the United States, if not in the world. Some decade and a half ago, The National Association of Merchants and Travelers, which was the initial society of a like character, was formed in Chicago, its purpose being the encouragement of trade excursions of business men in the territory adjacent to the city to come to Chicago to make their purchases of goods and merchandise. The idea was seized upon by various cities, both east and west, similar associations were multiplied, and, while the trade of Chicago was, to some extent, increased, it did not keep pace with the growing importance of the city as a commercial and financial center. The means employed were too spasmodic and ephemeral to produce any lasting, or even growing, commercial pre-eminence of the city which was at all commensurate with its natural advantages, its transportation facilities, and its growing industrial enterprises.

Efficient as the National Association of Merchants and Travelers had originally been, it soon outlived its usefulness, and there remained no unity of business interests that could act authoritatively on behalf not only of Chicago's commercial, but also its civic, sanitary and social interests as well.

Near the close of 1904 the name of the National Association of Merchants and Travelers was changed to the Chicago Commercial Association, which was later altered to the present appellation. A thorough reorganization was effected, an efficient and resourceful corps of officers was chosen, with the usual board of vice-presidents,



directors, executive and twenty other committees. Under the new management the Association rapidly increased in numbers, starting with 93. The following table shows the growth in membership since December, 1904:

December, 1904.....	93	December, 1908.....	2,700
December, 1905.....	1,002	December, 1909.....	3,000
December, 1906.....	1,283	December, 1910.....	3,850
December, 1907.....	1,376	December, 1911.....	4,118

It must be borne in mind that the membership is given by firms and not by individuals, and as the individuals composing a firm average four persons to each, it makes the individual membership of the Association approximately 16,000. The system employed by the Association in carrying on its work embraces a comprehensive grouping of all its forces into four grand divisions, viz.: the Interstate, the Civic Industrial, the Foreign Trade and the Local Divisions. These are co-ordinately arranged into seventy-eight trade subdivisions, each of which is under the direction of a chairman and four committeemen, appointed by each subdivision, approved by the Executive Committee, and which constitute the members of the Ways and Means Committee, which is the active working force of the Association, composed of 390 members, representing every branch of trade, commerce and industry in the city. This committee has a session on each Wednesday at a luncheon, to which all members of the Association are admitted, and at which is discussed various questions relating to the active work of the Association in all its departments. This is the Association's forum, at which the attendance varies from 200 to 300 members, addressed by speakers of recognized ability from various sections of the country and occasionally by invited guests from abroad.

To the interstate division is committed all subjects relating to, or involving, the commercial interests of the city and its importance as the great central market of the country. The civic industrial division has for its definite purpose the maintenance and development of industrial enterprises within the city's manufacturing zone, as well as the improvement of civic conditions within the municipality. The foreign trade division seeks the fullest possible advancement of Chicago's trade through the establishment and maintenance of reciprocal commercial relations with foreign countries and by the establishment in foreign marts of agencies for the introduction of Chicago-made products. The local division is engaged in the organization of public

sentiment for the promotion of the municipal welfare, the enforcement of constitutional guarantees of property rights and individual liberty, based upon the idea that citizenship is both a personal liability and a public responsibility. One feature of the local division is its convention bureau, which brings to Chicago annually conventions of deliberating bodies to the number of over 300, represented by an aggregate of approximately 400,000 delegates.

The creed of the organization is tersely expressed in a few words, as follows: "The Chicago Association of Commerce aims to promote the greater development of Chicago's commerce at home—abroad; a supreme respect for law and order leading to a higher standard of municipal character through the organization of all concerned into an aggressive force."

The division whose business brings it most closely in touch with the widespread industries of the United States and with those manufacturers who are seeking sites either for branch or main plants, is the civic industrial, between whom the correspondence is carried on. The information given such parties is voluminous and varied, reaching every section of the country. Its printed matter goes to every large commercial body in the country, into public, college and university libraries and to American consuls in Europe. How far reaching and influential this work may be cannot be accurately estimated, because the division closes no deals, for when it has carried negotiations to the point of giving whatever information is required by prospective seekers for locations, the cases are turned over to the members of the division dealing in industrial sites and property and negotiations are continued direct between them.

XI.

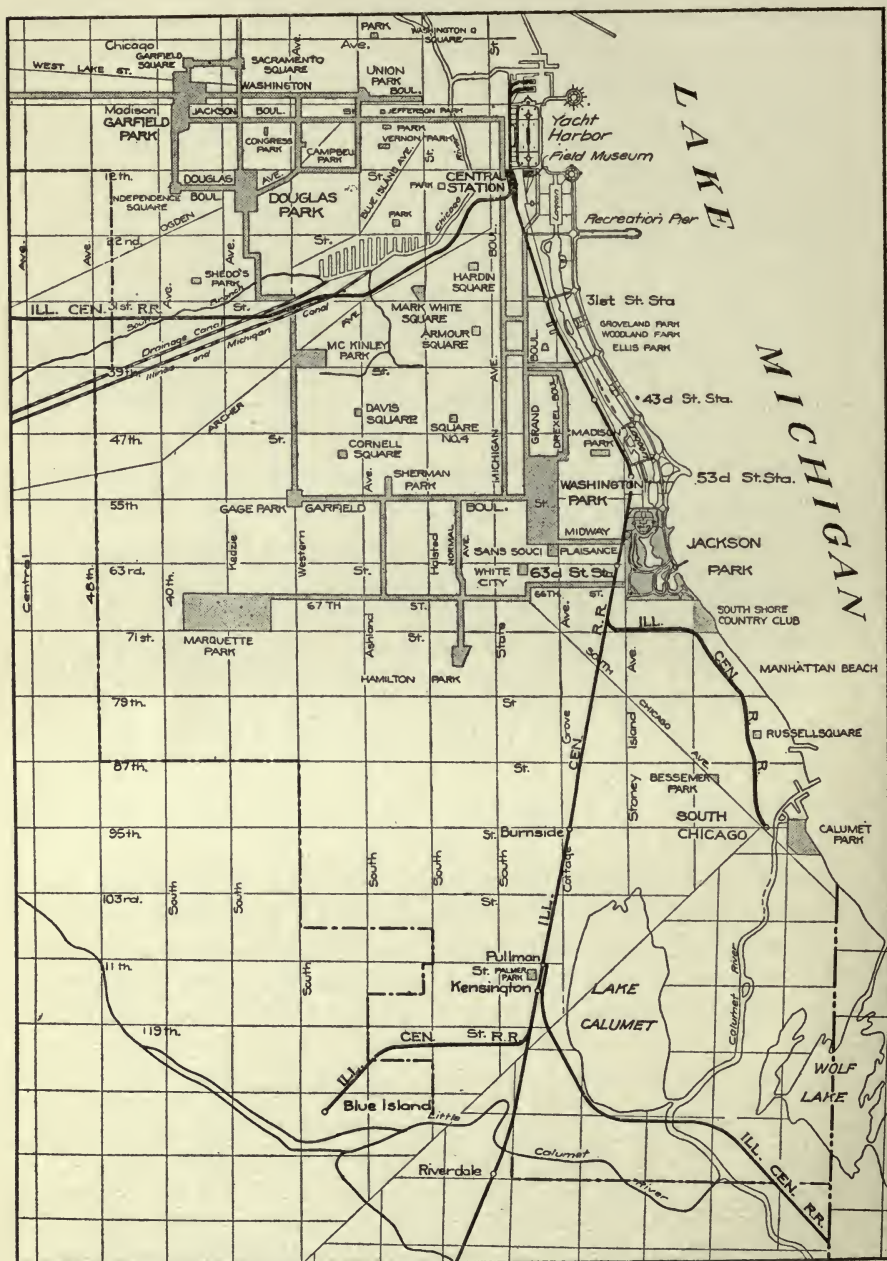
Chicago—Its Labor Supply

It is no more disastrous to the success of a manufacturing enterprise for the proprietor to locate his establishment in a place where the supply of the chief raw material he uses is limited to his bare necessities, than it is to select a situation where there is such an insufficiency of labor as to enable him to meet no more than his ordinary requirements. In either case a temporary or permanent increase in the demand for his product so cripples him that he is unable to take advantage of the enlargement of his business or to compete with a manufacturer who, under more favorable conditions, is placing on the active market an article which may be inferior to his own.

There is no principle better settled in the distribution of population than that labor of all kinds, skilled as well as common, will gravitate to industrial centers, and this is more pronounced when the laborers are of foreign birth than with those who are native born citizens of the country. The foreigner comes here for no other purpose than to seek permanent employment at living wages, while, as a very general rule, the native, after a few years, becomes an employer of labor himself, wins his way to a salaried position or is a skilled operative in his chosen occupation. The majority of foreign born working men are unskilled laborers, and it is this class that fills the greater number of industrial plants in this country.

Thus it is that the basis of industrial progress is the cheap laborer who performs the patient, tireless and low-paid toil which is in greatest demand, even in this era when complicated and automatic machinery is so largely depended upon in every department of industrial enterprise. In fact, it is this very kind of machinery that creates the large demand for unskilled labor and attracts such to manufacturing centers.

Antedating the industrial activity which is now characteristic of this city, Chicago was the great center to and from which agricultural products tended for distribution. Land was both cheap and enormously productive, and the products of the soil met with a constant demand at remunerative prices. To this condition northern Illinois, Wisconsin, Iowa and Minnesota are indebted for the Swedish and Norwegian farmers, who now form a very large proportion of their agricultural population. They were thrifty, intelligent and inured to a



Map of the Illinois Central Railroad Showing Proposed "Chicago Beautiful" Plan

life of exacting labor. They had large families and were not compelled to depend upon hired labor in their vocation. Their prosperity became known in their former homes and they were followed by kinsmen and acquaintances, each new arrival adding to the necessity for, and growth of manufacturing centers and these, in turn, emphasized the requirement for skilled and common labor in the shops and mills. This vast population, remaining unassimilated, and serving always as a magnet to draw still others of their race from their mother country, and who retained the manners, customs and habits of their native lands, has given the West, and especially its cities, the most cosmopolitan population to be found anywhere on the globe. There are in these states townships today in which the English language is spoken neither in the home, stores, schools or churches, and yet those necessities of modern civilization are of the very best.

Immigration from Sweden, Norway and Germany has declined somewhat in late years, as has also that from the United Kingdom and France, but the influx has been largely increased from Italy, Russia and Hungary. There has, however, been a decline in the total of immigration since 1907, when it reached the highest point, 1,285,349, to 1911, when it had fallen to 878,587. The tendency of foreign immigration is now to the cities, and it is generally of persons not skilled in any of the useful arts or domestic agriculture, and of such labor Chicago has an inexhaustible supply. At the school census in 1908 Chicago had a foreign born population of 728,257, and the nationalities which are most commonly associated with the severe toil of unskilled daily labor are the Italians, Bohemians, Poles and Russians.

These are the foreigners who are practically never assimilated with other populations, native or alien born. They have no knowledge of our language, laws, customs or modes of life. They live in communities each by themselves, and probably 75 per cent of the adult males are laborers with pick and shovel, in lumber yards or doing the heavy labor about mills and manufactories. But, on the other hand, they are the best unskilled laborers to be found anywhere. They are robust, live frugally, dress economically, occupy small cottages or apartments in localities where rent is low, and they toil willingly for a wage that no American would consider and which most foreigners would refuse. With this great laboring population, numbering approximately 800,000 people, which thoroughly understands every class of employment for which they offer themselves, the manufacturer has an army of common laborers from which to draw for all the unskilled labor he may require.

But hard as the life of these toilers may seem to an American, from his point of view, they are vastly better off, and have more of the comforts of life here than they ever had or could have at home. As compared with other cities, Chicago has few crowded tenement quarters, and the laboring man here has, as a rule, more of home life and its comforts than can be found in other large cities. While we have our crowded spots, the laborer has more room, more light and better air than is usually possessed by people of his class elsewhere.

The cottages occupied by these laborers are small, but the lots upon which they stand are large enough to give the tenant, or owner, space for a good sized garden in the rear, as well as a bit of lawn in front, and it is not at all uncommon to see a very productive kitchen garden connected with these homes which produces a very considerable quantity of food for the family. Rents vary from \$4.00 to \$8.00 a month for apartments, in the sections of the city occupied by these working men, and few pay either more or less. From a report made by the City Homes Association "of a canvass of 420 apartments in a West Side district of the city, it appears only one Italian family was found paying more than \$10.00 a month rent, and only 26 families paying less than \$4.00. The average rent paid by the Italians was a little under \$5.00 a month for three-room apartments. The Jewish laborers paid a little more than \$8.00 a month rent, the Poles \$5.66 and the Bohemians \$5.93 a month for four rooms."

Next to rental, the great necessity is for water. Meter rates for city water, which for purity is without an equal, is 62½ cents per 1,000 cubic feet. An ordinary family, in a seven-room house, with bath, closet and laundry, will consume about 22 cents' worth of water per month. With these laboring people the rent and the water absorb not to exceed one-sixth the income of the head of the family.

The educational department of the city government makes a persistent and very successful effort to keep the children of these foreign laborers constantly in school. The compulsory education law is rigidly enforced by truant officers, and the number of children who escape school up to and including the eighth grade are very few, as compared with the total. There is no section of the city that is not provided with school facilities of all kinds which are tuition free for all pupils. While all foreigners of the laboring classes are not alike, the large majority of those in this city do not fail to appreciate the advantages the public provides that the children may attain a higher position in life than the parents themselves have reached, or than the children could ever hope to attain in their fatherland.

All these benefits make the common laborer contented with his condition, satisfied with his wage, and industrious in his lowly calling.

With skilled labor the conditions are much the same. The growth of industrial enterprises, as shown in preceding pages, gives him constant employment at remunerative wages. It is rare that a satisfied artisan is a discontented one. The skilled laborers in Chicago, besides the Americans, the English, Scotch, Irish, Swedes, Norwegians, Canadians, and Swiss, who speak our language, are interested in public affairs and among them are many of the very best of our citizens. They live well, have comfortable homes, and are staunch supporters of our schools, churches and public societies. This class forms the "governor" on the machinery that holds in check the efforts of the more radical in the advocacy of labor disturbances. A very large proportion of this class own their own homes. With its 190 square miles of city territory, suitable locations for homes are not beyond the means of the average industrious mechanic, while building materials are comparatively cheap. A well-housed, well-paid and well-clad skilled workman is not one who "quarrels with his job." The wages of this class are, on the average, lower than are paid them in some American cities, and this is caused by the lower cost of necessities of life, especially food. Chicago is the center of the food producing area of the country, and it is apparent that food products received here are not compelled to bear the burdens of long transportation, as is the case in markets more remote from the points of production.

The working man in Chicago can have more luxuries on his table than anywhere outside of the agricultural and productive center of the country. The choice cuts of beef and other meats are high here, as they are at the East or South, but good, wholesome meat, that is not demanded in other great markets, is abundant and at reasonable prices. Butter, milk, poultry and eggs are produced in abundance within fifty miles of the city limits and the cost of delivery is far from excessive.

As affecting the food supply of Chicago, it should be remembered that the County of Cook, in which the city is located, is one of the most important agricultural counties in the state. A "farm" is any tract of land of three or more acres used for agricultural purposes. The number of farms in the county in 1910 was 3,100, comprising 20,679 acres, which produced in that year 2,137,823 bushels of corn, 2,210,823 bushels of oats, and contained, among other stock, 31,955 cows and 331,658 poultry. This enumeration does not include the immense number of gardens which supply the people of the city with

Pl



vegetables, most of which is vended from wagons through the residence streets of the city. The vehicles of these itinerant venders of vegetables of various kinds play a most important part in the food supply of the city during the summer and autumnal months and supply the place of city markets.

Chicago is the largest fruit market both in the variety and quantity of products in the United States, and much of the fruit, like berries, cherries, peaches, apples and grapes, is produced in the immediate vicinity of the city, while the tropical and sub-tropical fruits are always abundant in the city markets. Choice fruits are not luxuries in this city.

While these advantages are important in their bearing in making the workman contented, there is another element that has a still stronger influence upon him. There is no subject that is more frequently discussed by students in sociology than the constant and increasing tendency of young men to leave the country and come to the cities. This is shown by the enumeration of the population at each decennial census. In 1870 the urban population of the United States, that is, population in cities of 8,000 or over, was 20.9 per cent of the total; in 1880 it was 22.6 per cent; in 1890 it was 29.2 per cent, and in 1900 it was 33.1 per cent. In 1900 the total population was 75,468,039, of which 24,992,199 resided in the cities. This shows itself in this way: manufacturers in small towns and cities, with every accessory for profitable business, find they cannot keep in their employ their best operatives. The small city or rural village is without the attractions and diversions that are abundant in a metropolis. With its parks, theatres, entertainments of various kinds, and the attractions always to be found in the swing of city life, the young man is drawn from the country to the large centers of population. The larger wage he receives in the city is an additional attraction, for he does not stop to consider that all his pleasures make a serious drain upon his larger income.

If the workman is a foreigner he is drawn to the city by the fact that there are more of his own people there than in the country, and he is anxious to add to the pleasure he will have in associations that will connect him with his old home.

This desire for the atmosphere of cosmopolitan life, while it is unquestionably injurious to the country, is an asset of great value to the manufacturer located in a city. It gives him an ample number of both skilled and common workmen in his regular business, and in case of an emergency, when he may desire to increase his operating force,

either temporarily or permanently, he has an unfailing supply upon which to draw. His work need never be delayed or crippled because of a failure to secure competent operatives.

The result of this is that the laboring foreigner is not a "floater." He remains a permanent resident of the city. He becomes, by reason of steady employment at remunerative wages, a house owner, his children, through the agency of the public schools, soon become thoroughly Americanized in language, customs and associations. Of the second generation a few speak the language of their parents, and fewer still follow the menial occupations of their fathers. New arrivals maintain the quota of unskilled labor and the supply always equals the demand.

XII.

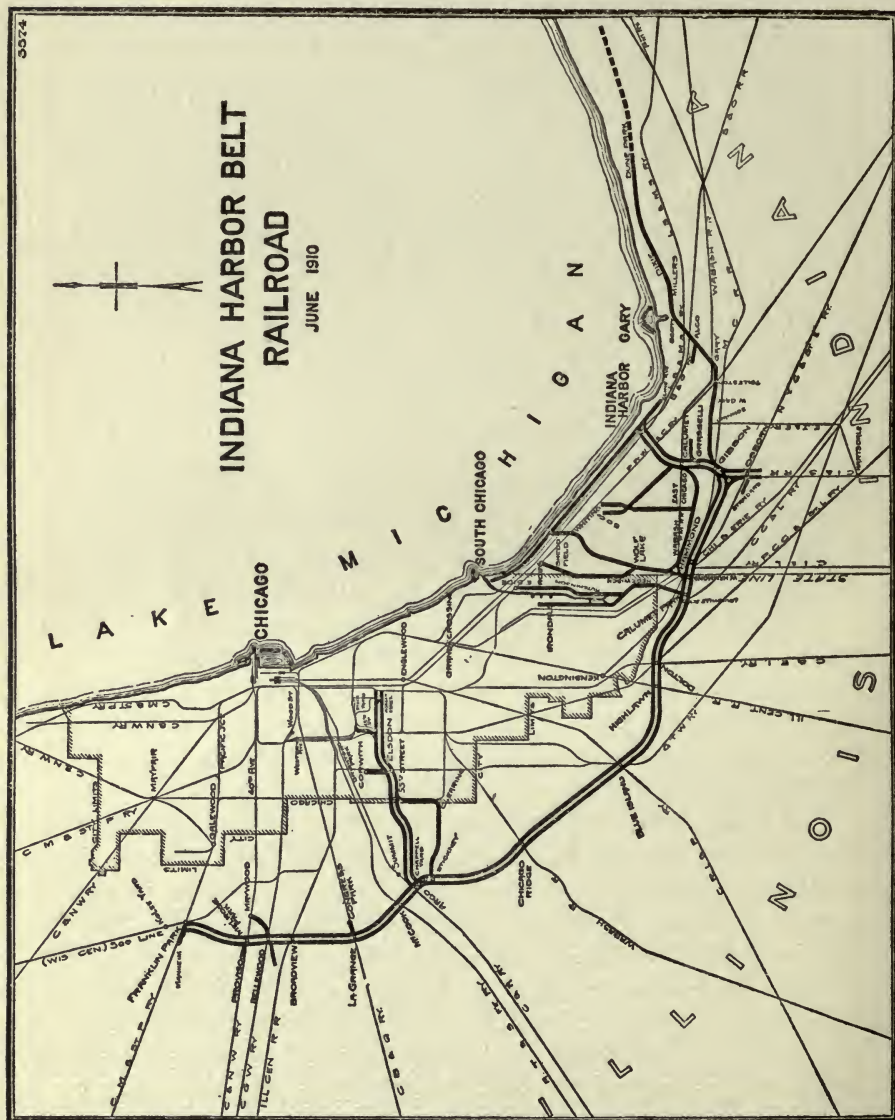
Chicago—Its Wage Earners and their Wages

"The laborer is worthy of his hire." Poorly paid labor is the most expensive, and, conversely, the highest paid is the most efficient service in the world of industry. Except in rare instances when the labor to be performed requires some peculiar mental qualifications or technical education, the compensation for work executed is regulated chiefly upon the cost of living, and this, of course, is greatly influenced by the market conditions at the locality where the labor is performed. The degree of hazard, like work on tall steel structures; or the menace to health, like glass blowing, will enable workmen to secure a compensation above the value of the actual work performed, as measured by hours, but these are exceptional occupations, and so far as wages are concerned are "a law unto themselves."

It is true also that wages are, to some degree, controlled by trades union, but such modifications as they ask for are all based upon the cost of living within the district over which any particular union may exercise its influence. During the late winter and early spring months of the last year, the demands for an increase of wages were universal throughout the entire United States, but in all cases the requests for an advance of wages was based upon the abnormally high cost of nearly every commodity that entered into the family expense account. Whatever may have been the causes for the admitted increase in the cost of living, such increased cost may be regarded as temporary, and there is little doubt but that the movement towards lower prices, which is already noticeable, will soon reach the normal standard.

In a recent government report on the cost of living, the quantity of food consumed annually by the average family of five persons is given as follows (omitting fractions): Fresh beef, 394 pounds; flour, 680 pounds; potatoes, 14 bushels; eggs, 85 dozen; butter, 117 pounds; sugar, 268 pounds. There is no one of these commodities that is more costly in the Chicago market than in that of any large city, and most of them are here perceptibly lower. While the difference in price per item is small, it amounts to a very considerable sum to the wage worker for the entire year. Such a saving would be in Chicago \$43.00 as against Boston; \$26.00 as against Detroit; \$58.00 as against Pittsburgh and \$51.00 as against New York.

These figures are for an ordinary family, but it is a notable fact that with the hundreds of thousands of unskilled working men, the



vast majority of whom are of foreign birth, most of the food used is such as they are accustomed to consume in their native land, and can be purchased at a much less cost than the average food consumed by the American wage worker.

In the outskirts of the city there are large areas of vacant property which are wholly unoccupied, and the use of this land is given in small tracts to working people for cultivation without cost and is tilled by the family of the beneficiary. In this way very many furnish their tables with all the garden vegetables and potatoes consumed by the ordinary family. There are hundreds of acres of vegetables gardens within the city limits, the products of which are marketed from wagons on the streets at prices very much below those asked for similar articles at the grocery stores or in the general market places.

Very many of the skilled artisans of the city own homes and live in the suburbs, all of which are easily accessible by street car lines, the elevated roads, the interurban electric, or the steam railroads which run, morning and evening, many trains to accommodate those living beyond the city limits. Within twelve miles of the center of the city there are nine large villages or cities which have frequent trains over some one of the many transportation lines, the fare being rarely in excess of five cents and in very few cases over ten cents. Of these villages more than 75 per cent of the adult male population have their work shops or places of business within the city limits. In those suburbs rents are, as a rule, very considerably lower than they are in the city, while prices for lots for residences are within the reach of every skilled working man with any idea of frugality. All these villages have education facilities fully equal to those provided for pupils in the city schools.

The price of labor is kept within the bounds of fairness and reason by three principal causes. The first is the economy of living occasioned by the lower cost of food; the second is the natural effect of competition between workmen that always exists where labor is abundant; the third is the large number of working men and laborers who go into the country for work in the months when there is the least demand for labor in the city and return when there is the heaviest city demand for workmen of all classes. This last class is made up of sailors on the lakes during the busy season, farm hands and the large number of employes at the hundreds of summer resorts about Chicago. The wage earning population of the city, which embraces those who work in and about manufacturing plants, of which there are over 9,000, is variously estimated at about 250,000, while the unskilled

labor population is estimated at about 500,000. With such resources to draw from, the employer is never short of operatives at a wage fair to both parties.

But it may be asked why it is, if labor conditions are so satisfactory in Chicago, that it has so many labor troubles in the form of strikes and lockouts? The answer is plain and direct. Chicago has fewer labor disturbances and disputes than any city of the first class in the country.

It is true that within the last fifteen or twenty years there have been several spectacular strikes in this city, of which glaring and sensational reports were given in the local press, and still more lurid accounts put on the wires for publication in newspapers in other sections of the country. But with these exceptions, Chicago has been remarkably exempt from disastrous industrial convulsions that were strictly local in character. In common with the country in general, this city has been the victim of labor troubles, like the strike of the railway employes in 1888, which extended from February to August in that year, and involved nearly all the railroad systems of the United States. A similar convulsion was the so-called Pullman strike of 1894, which reached to the Pacific Coast.

The period of greatest unrest in the labor world extended through the twenty years between 1880 and 1900, during which time Chicago had, all told, 1,737 strikes of all kinds, as against 5,000 in New York, or an average of eighty-seven a year here, as against 250 for the same period in New York.

Since 1900 labor troubles have not been important. The teamsters' strike in May, 1903, attracted considerable attention, but it affected few concerns and was made vastly more of than it deserved. A stranger in the city might have noticed that some trucks and drays had a policeman occupying a seat with the driver, but that is all. There were cases of individual violence, but otherwise the city was orderly. In July of that year the freight handlers struck, involving some 9,000 men. The strike lasted seven days. In November the employes of the City Railway Company became dissatisfied and quit work. In 1905 a sensational strike of the teamsters employed by one of the firms of the city received much more publicity than it merited. It lasted for a week or more and was attended with some violence, but it concerned and affected only the firm engaged in the dispute.

The last of these spectacular disturbances was the garment workers' strike, which began September 22, 1910, and continued until February 3, 1911, in which 45,000 strikers were involved, 250 firms being

concerned. The feature most prominent in the dispute was the open shop, to which the employes objected. The strike was finally settled by the employes returning to work, the open shop policy of the employers being maintained. The loss in wages by the strikers is estimated at \$3,000,000. There have also been some disputes between unions as to which one was entitled to perform the labor in hand, but these differences have existed everywhere and involved workmen universally in needless hair-splitting disputes. The zeal of the newspapers for sensational reports has given more importance to these labor controversies than they were entitled to receive.

In a city with 10,000 manufacturing establishments there will be differences of opinion between an employer and his employes, but the latter have learned that a strike is not only exceedingly disastrous to themselves, but also is a poor expedient even as a last resort. The employers have found that the better way is to meet their men with a spirit of fairness. Experience has been an excellent teacher, and both sides have profited by their schooling, expensive as it has been in some cases to each. Commonality of interest appeals to both sides as the best corrective for real or fancied grievances. Fairness leads to compromise and compromise leads to peace and prosperity for all parties. Success in business depends, in a great degree, upon steady employment.

Notwithstanding the fact that Chicago is, by no means, exempt from either working men who are radical and dictatorial, or from employers who are unjust and penurious, yet these two extremes constitute a small proportion of employes and employers. There is here an enlightened general sentiment which forms a public opinion that is respected by every class of labor and business. It is the balance wheel that preserves peace and is a strong element in the prosperity of Chicago. (Census of 1905.)

	Wage Earners.	Wages.
New York*	464,716	\$248,128,259
Chicago	241,984	136,,404,096
Philadelphia	228,899	107,640,307
St. Louis	82,093	42,642,358
Boston	59,160	31,873,185
Baltimore	65,224	25,633,550
Pittsburgh	56,229	31,540,678
Cleveland	64,095	33,471,513
Buffalo	43,567	21,621,762
San Francisco	38,429	25,015,427
Detroit	48,879	22,786,576
Cincinnati	58,584	27,389,569
Milwaukee	43,540	20,910,009
New Orleans	17,631	7,444,474
Washington	6,299	3,658,370

*Includes Brooklyn.

MANUFACTURERS JUNCTION RAILWAY AND CONNECTIONS.

CONNECTIONS.

Hawthorne Station.	Chicago Burlington & Quincy Ry. Illinois Central R.R. Cleveland, Cincinnati, Chicago & St. Louis Ry. Minnesota, St. Paul & Sault Ste. Marie Ry. Chicago Illinois & Western R.R.
22nd St. & 48th Ave.	Belt Ry. of Chicago.
16th St. & 48th Ave.	Baltimore & Ohio Chicago Terminal R.R.

HANDLES INTERCHANGE CARLOAD TRAFFIC BETWEEN

Chicago Burlington & Quincy Ry.
Baltimore & Ohio Chicago Terminal R.R.
Chicago Illinois & Western R.R.

Illinois Central R.R.
Minnesota, St. Paul & Sault Ste. Marie Ry.
Belt Ry. of Chicago.



TEAM TRACK FACILITIES.

25th St. & 48th Ave.

L.O.L. FREIGHT HANDLED AT HAWTHORNE STATION FOR ALL RAILROADS.

GENERAL OFFICES, 500 South Clinton Street, Chicago, Ill.
LOCAL OFFICES, 25th Street and 48th Avenue, Hawthorne, Ill.

XIII.

Chicago—As a City of Homes

The home life of a people is a better indication of urban character than can be found in their national prosperity or advancement. It is the basis upon which rests the moral, educational and artistic growth of the citizen, and the broader the foundation the more secure is the social structure.

A home is something more than a place where a man eats and sleeps. If he has a family growing up about him, it may be doubted whether the surroundings of his domicile and those features of city life which contribute to his enjoyment and pleasures are not as vital in the development of a higher life as the roof above his head, or the food upon the table of his family. It is universally so regarded, and no inconsiderable sums of money are annually paid out of every city treasury for expenditures under the classification of "recreation." As an evidence of the high regard in which rational diversion is held in American cities of 50,000 population and over, it may be cited that while education costs on the average \$1.53 per capita, there is expended \$0.48 per capita for pastime, or nearly one-third as much for schools.

Under "recreation" may be classed parks, boulevards, public conservatories, children's playgrounds, band concerts, and other expedients that make life enjoyable to the great masses of people which make up a city's population. There is no city of the first class (300,000 or over) that expends more money, per capita, for public recreation than the city of Chicago. Of those ranking next below Chicago, which expends \$1.22 per capita for this purpose, are Cleveland, \$0.89; New York, \$0.56, and Detroit, \$0.51. During the year 1908, however, Chicago expends for health conservation and sanitation \$1.43 per capita, while New York expended the same year for those objects \$0.83 per capita.

The park system of Chicago is one of the most elaborate and wisely planned of any similar public improvement certainly in this country. The parks and boulevards are so arranged as to place one or more of these recreation grounds in each of those localities where the resident population can reach them most expeditiously, and which are, at the same time, most accessible to the center, or congested, sections of the city. The park areas are divided into systems as follows: South Park system, 2,494.74 acres; West Park system, 1,035.43

acres, and Lincoln Park system, 699.94 acres; other small parks and squares, 143.56 acres; unimproved, 54.83 acres, making a total of 4,428.50 acres. In addition to these is the North Shore Park district, which, while it has as yet no parks, has four miles of boulevards, including Sheridan Road, Ashland Avenue and Pratt Boulevards or drives.

The South Park system embraces Jackson Park (542.89 acres), Washington Park (371 acres), Marquette Park (322.68 acres), Grant Park (205.14 acres), McKinley Park (74.88 acres), Gage Park (20 acres), Sherman Park, (60.60 acres), Ogden Park (60.56 acres), Palmer Park (40.48 acres), Hamilton Park (29.95 acres), Bessemer Park (22.88 acres), Calumet Park (66.19 acres), with eleven other small parks and squares containing from 20.19 to 7 acres each.

The West Park system includes Humboldt Park (205.86 acres), Garfield Park (187.53 acres), Douglas Park (181.99 acres), Union Park (17.37 acres), with ten smaller parks having areas of from 1.13 acres to 10 acres each. Another large park is to be made on the large wooded tract west of Central Avenue and South of Adams Street.

The Lincoln Park system takes in Lincoln Park (552 acres), with four small parks varying in area from 1.73 to 9 acres each. These systems are connected by wide boulevards, paved with asphaltum, and vary in width from 66 feet to 200 feet, generally with a park area in the center, and lined with shade trees. The total length of these boulevards and drives is about 65 miles.

The parks are beautifully wooded with walks, drives, bodies of water for boating, flower gardens and picnic grounds. One of them (Lincoln Park) has one of the largest zoological collections in the country, with elephants, buffaloes, bears of many kinds, lions, tigers, seals, prairie dogs, and many rare and interesting foreign and domestic animals and birds. At Garfield Park is the largest conservatory in the country, filled with tropical plants and trees of innumerable variety. Some of the parks have golf links, baseball grounds, tennis courts and other facilities for recreation and games. They are all adorned with statuary and other objects of interest and instruction. The absence of "Keep off the grass" signs are so rare as to be the subject of comment with strangers.

In one respect Chicago is unrivaled by any city in the world, and that is the number and extent of small parks, or children's playgrounds. There are between sixty and seventy of these public neighborhood centers of recreation, of which thirty are small parks and squares, fourteen are playgrounds, seventeen are small parks and

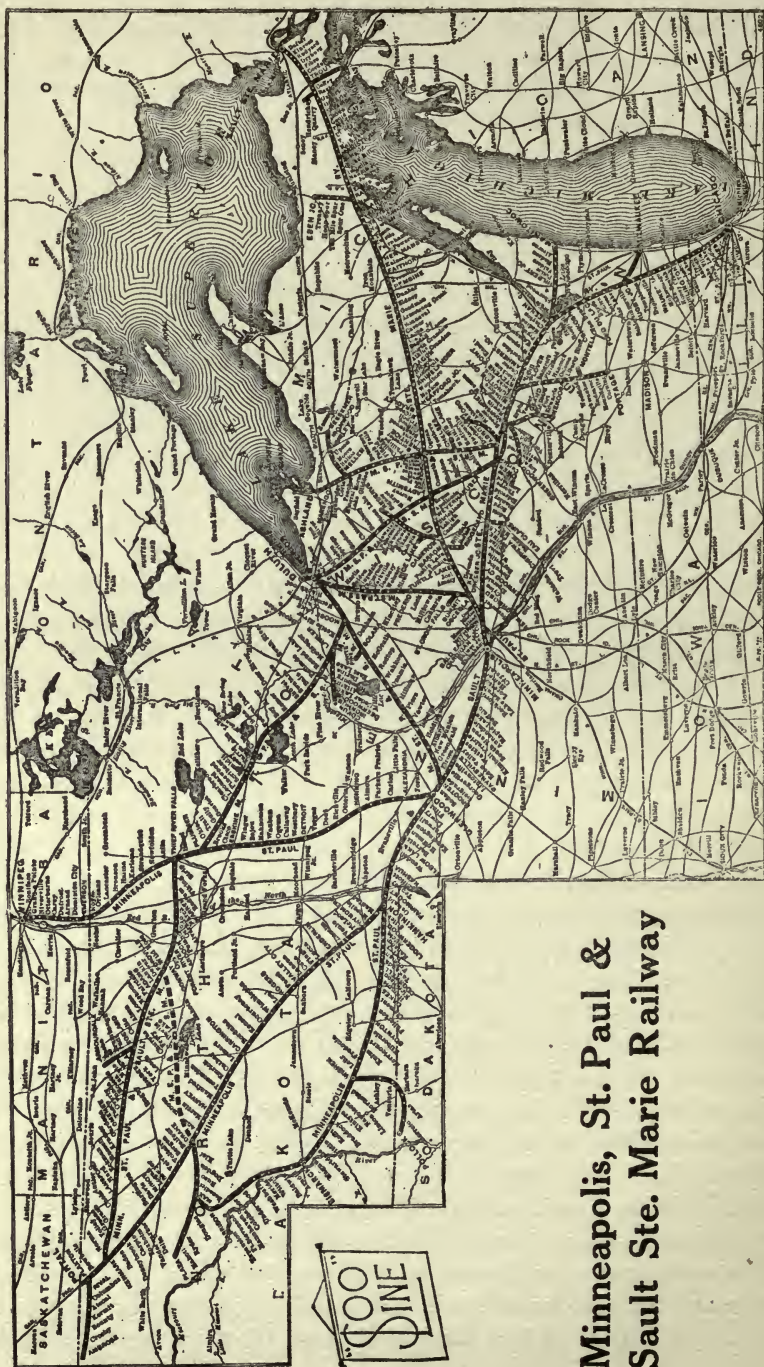
playgrounds combined and three are bathing beaches. At the neighborhood centers are commodious buildings of concrete with rooms set apart where women can congregate, hold their club or other meetings, or visit, as they see fit.

No one is so poor as to be excluded from the occupancy and use of these centers, nor so rich as not to recognize their full value in furnishing relief from the hard conditions of living in the congested quarters of the city.

The children's playgrounds are inclosed with iron fences, from which children cannot escape. They have sand piles, swings, athletic paraphernalia of all kinds, wading pools, and other features for the entertainment of children. They are under the care of public attendants who look after and care for the children, big or little, who may be delivered there by their parents. A woman who goes out to service for a day can leave her children at the nearest playground, certain that she will find them there, safe and sound, when she comes for them. At two of the fourteen playgrounds in the year 1910 there were 2,969,197 boys and girls who, but for them, would have been in the streets, alleys or some vacant lot, under little or no public or parental control.

The number of people at the bathing beaches averages about half a million each season. Chicago was the first city in America to provide free public baths for its people. It has now fifteen of these institutions, maintained at public expense, which any citizen can use at pleasure. Certain days are set apart respectively for men and women, boys and girls, who are furnished free with bathing suits, soap, towels, with lockers for the safe keeping of their clothing. The large swimming pools are an attraction for men of means, who have bathrooms in their homes, as well as for the poor who have not. Everything about these public bathing places is scrupulously clean, they are always in the best sanitary condition, and are patronized by hundreds of thousands of people annually, by no means of the poorer classes exclusively. These public baths have been established at an expense to the city of \$290,940 and are open the entire year. The cost of maintaining these parks, playgrounds, bathing beaches and free baths is about \$4,250,000 annually.

While these municipal parks, playgrounds, beaches and baths are all open and free to the public at seasonable hours, Chicago has a number of amusement parks, owned and managed by individuals, which are enclosed, and to which a small admission fee, usually ten cents, is charged. The principal feature of these grounds is the



**Minneapolis, St. Paul &
Sault Ste. Marie Railway**

band concerts given by the best known and most popular organizations in the country. For those who do not care for the music there are roller coasters, shoot the chutes, scenic railway, shooting galleries and shows of various kinds, for each of which a charge is made for admission from five to twenty-five cents. As a rule, these amusement parks have fine restaurants which are visited by many of the best people of the city. They are generally free from rowdyism and are well patronized by those who seek an afternoon or evening of simple fun.

But Chicago abounds in many attractions of a higher order than any of the foregoing, important as those may be, for the numerous class that constitutes the larger portion of the population of a great metropolis. There are few recreations that are adapted to every one's tastes. Chicago for many years was the butt of ridicule by those cities which were large, rich and prosperous when Chicago was nothing more than a collection of shacks and log huts sprawled over a marsh. But the city grew and broadened in refinement, as well as in trade and commerce until, in this year of grace, no city in the United States ranks above Chicago as an educational, artistic, musical and literary center. It has won recognition from its former critics, and the few slurs now cast at us are evidences of jealousy and envy, rather than of superior culture or refinement. A New York magazine in a recent issue contained an article on Chicago which said: "Long a popular subject for the humorist of the Eastern States, as well as those of Europe, was the supposed lack of culture and education of Chicago. As a matter of fact, whatever may have been her earlier shortcomings in this regard, Chicago today puts New York, Boston and Philadelphia fairly to the blush."

The World's Columbian Exposition in 1893 was the awakening of the city to a full appreciation of the aesthetic side of life, and since then its progress has been rapid and marked. The first evidence of this vigilance was the organization of the Thomas Orchestra, which resulted in the erection of Orchestra Hall by popular subscriptions amounting to \$900,000.00. The hall seats 2,577 people, and is the finest concert and recital hall in the country. The orchestra is composed of eighty-seven musicians and is second to none in the high professional standard and character of its members. The orchestra season continues for twenty-eight weeks, two concerts being given each week. In addition to this, there are several musical societies which have more than a national reputation for rendering classical music, among which are the Apollo Musical Club, the Mendelssohn, the German Mannerchor, and the Irish Choral Society. Musical

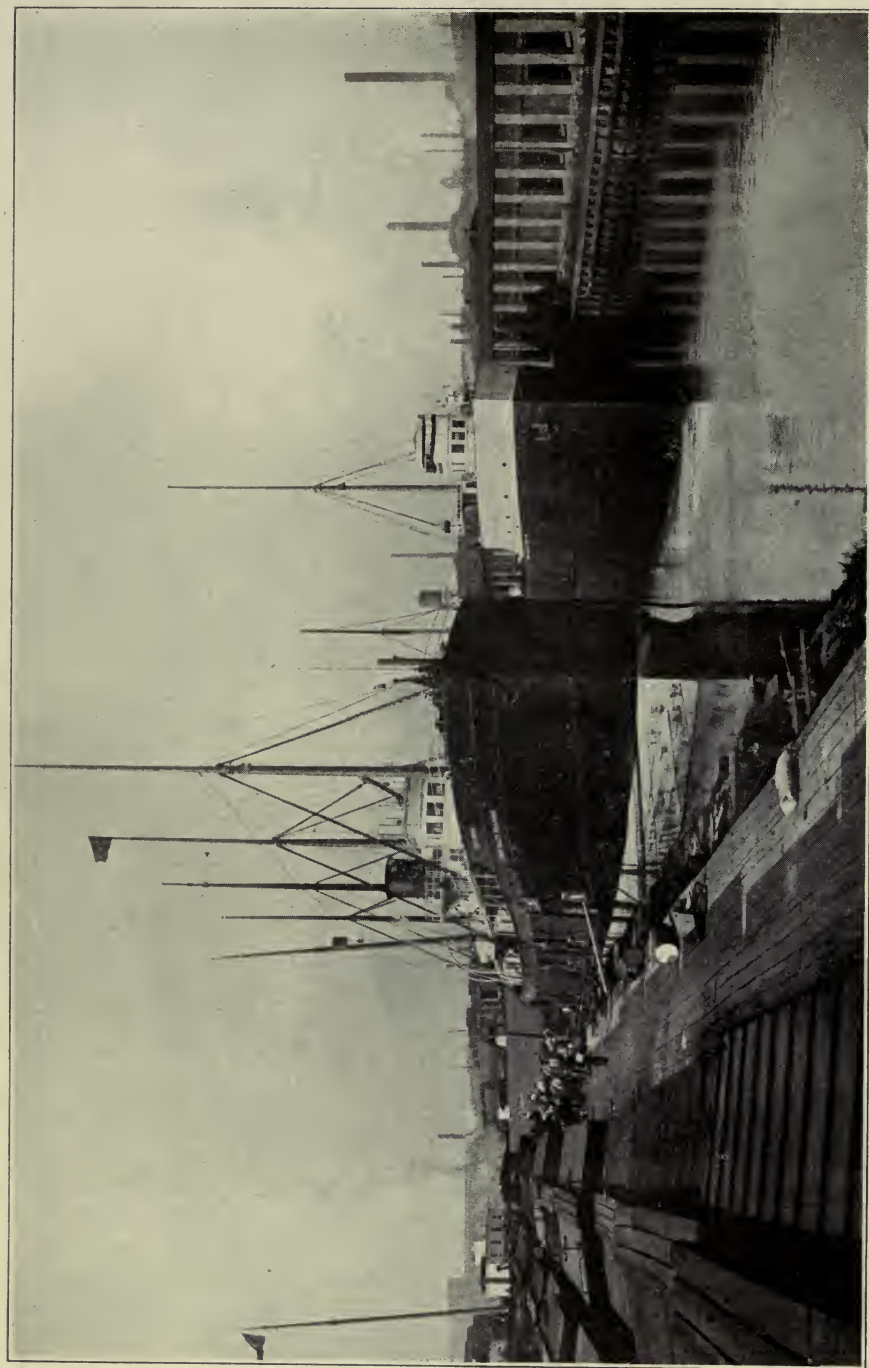
schools and colleges are numerous and of a high rank, Chicago having the largest musical college in the world.

In the arts of painting and sculpture, Chicago recognizes no superior in America. The Art Institute was an outgrowth of the Columbian Exposition, although as a school of art and design it had been in existence since 1866. The building, costing nearly \$1,000,000, stands near the business center of the city in Grant Park and is filled with paintings and statuary from the best masters and curios without number. It is open to visitors every day, Wednesday, Saturday and Sunday being free to anyone who wishes to visit it; the admission fee for other days being twenty-five cents. As evidence of public appreciation, it may be said that during the last ten years the number of visitors annually has exceeded that of any art museum in the United States, and for the last few years over 700,000 persons have visited it annually. Neither the Metropolitan Museum of New York, the Boston Museum of Fine Arts, nor the Philadelphia Academy can claim nearly so many guests. There is a fine art school connected with the institute, both of which are self-sustaining.

Of theatres Chicago has between thirty-five and forty, of which some thirty are strictly high class, giving attractions of superior character. In all their appointments they are the equals of the best of those of any American city.

That Chicago is now the library center of the country cannot be doubted, since it is the headquarters of the American Library Association, which was removed from Boston in 1910. This was made necessary from the fact that the West is now the center of library activity of the continent, and to meet the requirements of the association a change was necessary. When a transfer was demanded New York and Washington were strong competitors, and Boston sought to retain it, but Chicago was practically the unanimous choice of the committee. This brings to Chicago librarians from all parts of the civilized world annually.

Nothing contributes more, even if somewhat indirectly, to the comforts of living than paved and well sewered streets. Chicago's critics often hold up their hands in holy horror because of our "dirty streets." It may be admitted that some of our streets are littered, but "a workman is known by his chips." Where manufacturing is carried on to the extent in which it now is in this city, there will be highways that are not so clean as the boulevards and residence streets, but for pleasure driving, there are few cities which are so free from waste and debris as Chicago's avenues and drives, nor are there any, except



Chicago River & Indiana Railroad Boat House

in the limits districts, that are more free from water and mud. The following table shows the miles of paved streets and sewers in the five leading American cities with which a comparison can be made, and speaks well for Chicago:

City	Miles of Improved Streets	Sewers
New York*.....	1,908.1	1,834.2
Chicago.....	1,730.51	1,724.2
Philadelphia.....	1,307.6	1,103.4
St. Louis.....	712.0	639.2
Boston.....	506.2	729.3

*Includes Brooklyn.

Pure water and an abundance of it are essential to a sanitary and pleasant home. Lake Michigan, which forms for eighteen and one-half miles the eastern boundary of the city, is one of the purest bodies of water on the globe. It has always furnished the domestic water supply of the city from the settlement of the town to January 2, 1900, the lake was also the repository of the city's sewage. Preservation of the public health demanded another outlet for the sewers. At an expense of about \$66,000,000 a canal was cut, 24 feet deep and 160 feet wide for 32 miles, across the divide between Lake Michigan and the Desplaines river, by which the flow of the Chicago river was reversed and turned from the lake into the Desplaines, finding its ultimate outlet in the Gulf of Mexico.

The effect of this improvement on the public health was pronounced and almost instantaneous. The latest statistics of the annual death rate, in comparison with that data of ten years ago, show how important a factor pure water is in the health of a great city. In 1911 the death rate of the city was 14.5 per 1,000 of population, which is the lowest rate of any city of first class magnitude in the world. This rate has been reached by the prevention of those diseases which are superinduced by contaminated drinking water. The amount of water consumed by the two and one-half million people in the city is about 436,000,000 gallons per diem, and improvements are now being made which will give double that quantity daily. The cost to the family for an unfailing supply daily is nominal—about the expense necessary to keep a well pump in good order.

	Miles of Water Mains.
New York	2,091.9
Chicago	2,073.2
Philadelphia	1,529.6
St. Louis	813.0
Boston	743.6

A movement was inaugurated early in the spring of 1910 that will do much to add to the attractiveness of home life in Chicago, and this was the setting of shade trees along those streets that were without them and replacing the old trees which had either died or by neglect had ceased to be ornamental. The plan, under the direction of a competent forester, at once became popular and several thousand trees, principally elms, have been transplanted and properly cared for. The elm is perfectly adapted to our soil and climate, grows rapidly, and by continuing the work thus begun for a very few years, Chicago will have no rivals in the beauty of its well-shaded streets. In many other ways the popular idea of a more beautiful city is showing itself in adornments that contribute directly to the refinement and pleasures of domestic life.

These are a few of the necessities of a pleasant home and enjoyable, sanitary life which are to be found in Chicago. Many important features have been passed over. The level streets, abundant shade trees, alluring short trips to numberless near-by summer resorts, comparatively low cost of elegant homes, social pleasures unsurpassed by any municipality in Christendom, and open markets of endless variety are a few of the charms that even the casual visitor will notice. Chicago is called "The Garden City" because of its many homelike allurements.

XIV.

Chicago—Its Economical Living

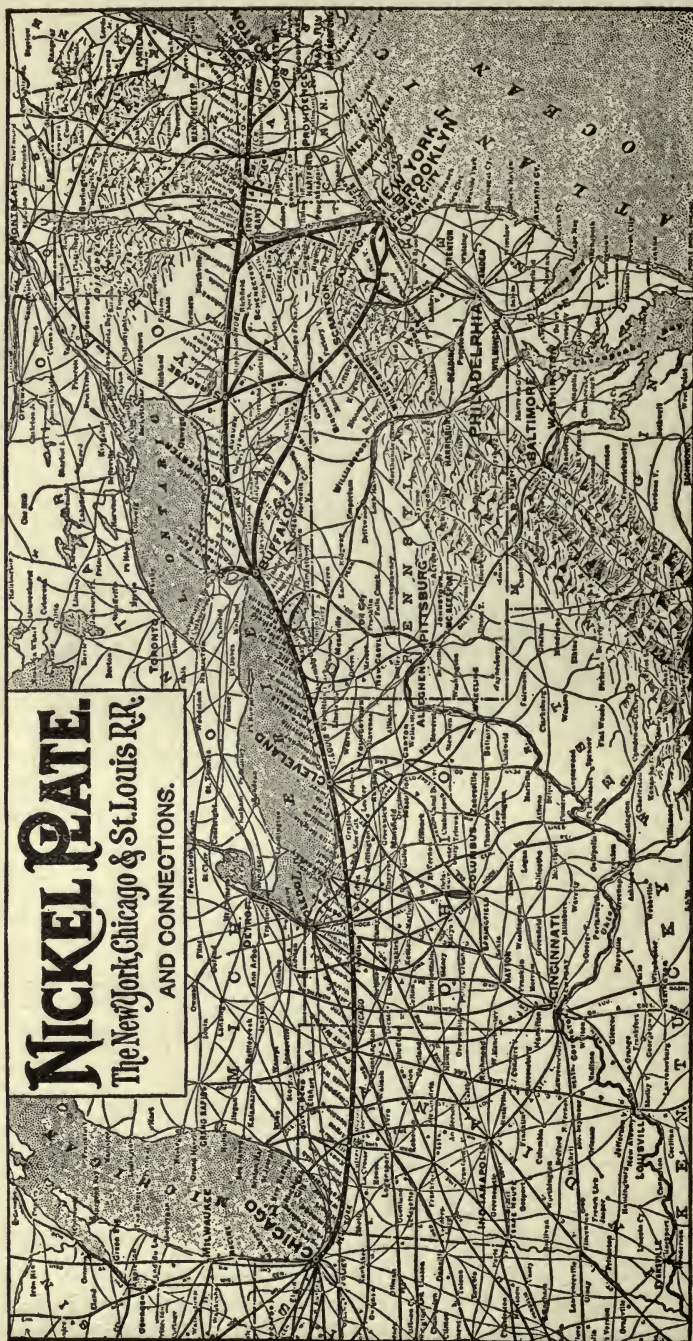
In another division of this volume some mention has been made as to the cost of living in this city, but it had reference only to its effect upon the price paid for labor.

While the statements made in that section hold good in all cases, with rich as well as those of moderate means, the sum paid for necessities of life are not so important a factor with the former as with the latter class. It does not require an argument to prove that the nearer one is to the point of production, the less his necessities will cost him, since about 70 per cent of the total cost of living is expended for transportation. The less the transportation, the less the cost to the consumer.

The well-to-do citizen, using a greater variety of products than his employe and, possibly, either a better quality or a larger quantity, has, by his proximity to the point of production, an equal advantage with him in the lesser amount paid for transportation. He also gets the benefit of larger purchases, since a peck of potatoes costs more in proportion to quantity than a bushel.

The proposition will not be disputed that the Middle West is the granary of the United States, if not the principal one of the world. This fact is demonstrated by the census reports of the Government which show that the Middle West has not only 57 per cent of the improved farms of the United States, but has also 58 per cent of the live stock and produces 49 per cent of the farm produce. So far as food products are concerned, that section has 56 per cent of the poultry, produces 54 per cent of the butter, 45 per cent of the cheese, 73 per cent of the corn, 67 per cent of the wheat, 52 per cent of the potatoes, and 21 per cent of the orchard products of the country. Besides these, it furnishes practically all of the meat that is used in the country and more than half of the flour.

Chicago has no markets for the sale of family food supplies that compare in plans and methods with those in many of our large American cities. First, because the resident population is so very widely scattered over a large area, and second, because vegetable products are largely vended by the owners of truck gardens which are located near the limits on three sides of the city. To some extent this variety of food is peddled on the street from wagons owned principally by foreigners, mostly Greeks.



There is, however, one market, or rather street, where fruits, vegetables, butter, eggs and the like are sold, which is one of the "show places" of the city, and is fully as interesting and far more surprising than the famous French Market of New Orleans. This is South Water Street, which lies along the main stream of the Chicago river and extends from Central Court to Lake Street, a distance of ten blocks, of which six are given up to the purposes of a market. Both sides of the street are lined with brick or stone buildings, which are occupied by 300 or more commission, jobbing and wholesale concerns, dealing in almost every variety of farm products, from veal to eggs, and in fruits of endless diversity, both domestic, foreign and tropical—magnificent pineapples, fourteen days from Honolulu, oranges from California and Florida, and bananas from Central America, with apples from Washington, Oregon and Michigan, and peaches and grapes from everywhere.

The sidewalks are filled so completely with boxes, crates, barrels and baskets that passers must go in single file and crowd in between the barrels to permit the passage of persons going in an opposite direction. Backed up to these walks are teams as thick as they can stand, and it is not uncommon that between 18,000 and 20,000 teams, receiving or delivering purchases, have been counted in the street at the busy hours. As a rule, the goods, in boxes, crates, baskets and barrels are delivered to the consignee in the rear of his store and by him to the purchaser at the front, or street, entrance. In the middle of the street there is barely space for the passage of a single horse and wagon.

One item shows the immensity of the business done in this comparatively narrow and contracted space. Statistics show that the eggs alone handled in a year amount to 2,598,000 cases, or 935,280,000 eggs, the total annual volume of this trade alone being \$25,000,000 or \$30,000,000. The apple business will reach 1,000,000 barrels, the California oranges 2,200 carloads, Florida oranges and grape fruit 700 carloads of about 300 boxes to the car; bananas, 4,000 carloads of 450 branches each; potatoes from Colorado, Michigan and Wisconsin are mixed with barrels of grapes from Italy, tomatoes from Texas and strawberries from Tennessee.

With all the hurry, bustle and activity, a single individual, either man or woman, can make small purchases there as easily and expeditiously as in the country store.

The West Side market at Haymarket Square is an altogether different place. Provision is made for it by widening West Randolph

Street between Jefferson and North Halsted Streets, so as to give ample space for farm wagons to occupy the middle of the street without interfering with the street car tracks. The market is uncovered and produce, garden truck almost exclusively, is sold from the wagons. In the forenoon the space is occupied by wagons, which are usually emptied by noon, when the owners return to their farms and gardens. Excellent vegetables, like potatoes, onions, squash, beets, and the like, can be purchased here as reasonably as in the average country village. Another market similar, though not so large, is known as the Dayton Street market, located on the North Side, at Dayton and Blackhawk Streets, a block south of North Avenue and a block west of Halsted Street.

In wearing apparel Chicago is second to no market in the country. It is the largest place of traffic for fine shoes, for both men and women, most of which are made in the city. In fact, it is the superlative excellence of this product that has built up for this city its large trade in such goods. There are no cheap shoes made in Chicago. In clothing there is no market in the country that excels the Chicago production either for quality or volume. To the laboring man it is important if he can save a couple of dollars on a suit of clothes, a dollar on his overcoat and fifty cents on a pair of shoes, for he purchases exactly what he requires. But it is of equal importance to a man who requires a finer and more dressy outfit if he can purchase precisely what he demands at a saving of from \$10.00 to \$25.00. In men's garments the value of manufactured goods made in this city in 1911 is estimated as follows: Clothing, \$58,100,000, and the variety classed as tailor to the trade, \$27,135,000.

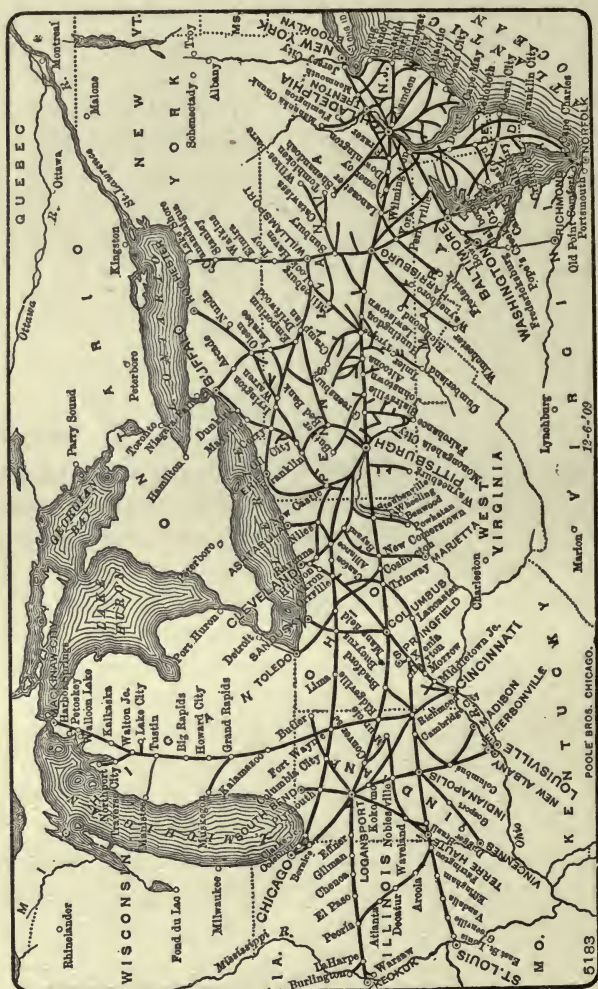
In ladies' wear the advantages of Chicago's market is possibly more marked. In dry goods and millinery, Chicago holds a place second to no city on American soil, while its department stores are unequaled anywhere in their size, number or stocks. The manufactures of millinery goods during last year are estimated at \$18,500,000 (not including wholesale trade), while the product of cloaks and furs very nearly equals it. It is not claimed that Chicago has lines of goods in any of these departments of trade that cannot be matched in any one of a dozen other cities of the country, but it is asserted that no city can rival our own in the lower prices at which such goods are retailed. The statement that Chicago is the largest open market in the country will hardly be questioned anywhere.

In household furniture this city is unequaled both as a market or a manufacturing center. Last year's estimates put the manufactures

of these goods at \$42,300,000, and the value of the wholesale trade at considerable of an advance. In discussing the subject of raw materials it was shown that Chicago holds the lead of all domestic lumber markets, and this has an important bearing upon the cost of home building. With the abundance of lime, cement (most of which is produced here), brick and stone, the cost of building a home is from 20 to 35 per cent less than in most other cities, large or small, of the country.

The price of land for residences is regarded, especially by people from the East, as surprisingly low. Choice building lots in some of the most attractive residence sections of the city, provided with gas, electricity, water, sewers, paved streets and cement walks, within twenty or thirty minutes' ride by elevated road from the business center, or loop district, and located within two or three blocks of schools, churches, stores and markets, can be bought at from \$50 to \$100 per front foot.

Attractive homes can be rented in these localities at prices varying from \$25 to \$75 a month or at higher rates if one is disposed to expend something extra for a larger and more showy residence. Along the boulevards or fronting the parks, or in ultra-fashionable quarters, he can accommodate the most plethoric pocketbook. But good homes, with every essential of refinement, comfort and convenience, can be secured either by purchase or rental at an extremely moderate outlay.



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XV.

Chicago—Its Ethical and Educational Advantages

The moral and intellectual status of any people in any community is measured with more unerring accuracy by the religious and educational advantages they possess than by any other known standard. Great cities are invariably the nerve centers of the state or country in which they are located. They attract and retain the best men and the most infamous, the finest churches, schools and universities, and the lowest dens of infamy and ignorance, hospitals and asylums for the physically distressed, and hovels where pain and suffering are the common lot of men. The conflict between these diametric elements for municipal control is constant and often bitter. The ascendancy of one or the other is shown by the character of the local government and the power of those institutions which stand for the betterment of the people.

Chicago differs in few respects from other great cities. In fact, it has some disadvantages not common to many American cities. It is at the "crossing of the ways" between the Atlantic and Pacific Coast cities, as well as between those on the northern frontier and the Mexican Gulf. The result is that Chicago has a larger floating population with which to contend than any other city in the country. And yet the percentage of crime here is less than most of those municipalities of the same rank in this country. It is less, in proportion to population in Chicago than in Baltimore, Boston, Buffalo, Cleveland, New York, New Orleans, Philadelphia, Pittsburgh, and a number of other important cities. These calculations are based on the number of crimes against persons and property (statutory offenses) omitting violations of city ordinances because there is no uniformity in municipal restrictions; acts being a violation of an ordinance in one city may not be such in another.

Whatever one may think of churches in general, there is no disputing the proposition that, both directly and indirectly, they constitute the strongest moral force in any community. Their influence bears not only upon the citizen as an individual, but also on the citizens collectively, as the chief instrument for securing good government, civic righteousness, or right mindedness, which is the only source of good government.



There are in Chicago ten non-partisan organizations which have for their fundamental idea not only good government, but also the selection of candidates for official positions who command the respect of the voters for their honesty, ability and character, and the high standing of the common council of the city furnishes abundant evidence of the effective work done by some of these organizations in maintaining the high reputation of our municipal legislative body. This is admitted in every city in the country. It is true a bad man will occasionally break into every city in the country. It is true a bad man will break into the city council and retain for years his position, but of the seventy aldermen composing the Common Council of Chicago all the "gray wolves" can be counted on a man's fingers. "Offenses will come, but woe unto that man by whom they come" at the succeeding election.

Chicago is very greatly indebted to its churches and their influences in every department of its activities. When it is known that Chicago has 1,077 churches, the aggregate of effort exercised along moral if not sectarian lines, can be well understood. If there be added to these the thirty-three church societies, such as clubs, ministerial and general organizations, which work outside of the church itself, we have a force for moral development of the community that is worthy of attention. The churches maintain about twenty hospitals, which in their appointments and capacity rank with the best public institutions of similar character in the city or state.

Next to the moral influence as a factor in good government, although less direct, is the system of public schools, maintained by the city at an annual outlay of over \$12,000,000. To the citizen there are few things that are regarded as more important than the education facilities offered him for the schooling and training of his children. In fact few public utilities are more seriously considered by a person seeking a home than the educational advantages that are offered him. If he be an employer of labor the instruction of the children of his employes is of nearly as much importance to him as the training of his own.

The number of the public schools of the city is 267, with 407 buildings, with 6,226 teachers who are paid over \$7,000,000 for the school year, and who train over 300,000 pupils. Beside a Normal College and three practice schools for the training of teachers, there are a parental school, John Worthy School for truant boys, sixteen high schools, 246 elementary schools, three manual training schools, besides 167 institutions in which manual training is taught, and 172 in

which household arts are taught, and 136 have kindergartens, while fifty-six have gymnasiums. There are three centers for the blind, twelve for the deaf and two for crippled children. These supply educational discipline for the children who come from homes of people who can spare them from other duties. But there is a very large class which requires the assistance of their children in the maintenance of the family. For such there are evening schools, open two hours for five evenings each week and continue for eighteen weeks, and in these are 19,988 boys and girls. In addition to all this there are vacation schools, for five weeks in July and August, at which the attendance is about 6,000. Any child over 14 years of age is permitted to attend the evening schools and may graduate as from the high schools upon passing the required examinations. There may be cities which have a more comprehensive system of public instruction than Chicago, but if so, it is not recorded. In addition to these there are a large number of parochial schools and educational institutions, besides business, law and medical schools, which have 2,691 teachers and 94,538 pupils.

The result of these numerous public instrumentalities is that the last school census of Chicago, taken in 1910, shows that of the children under 21 and over 12 years of age in the city, the number of those who could neither read nor write was 401, and the causes of such illiteracy were: Indigence, ill health, mental weakness, mutes, idiotic and insane, and other causes. Since more than one-half of these children in the public schools are of foreign birth or parentage, this exhibit is surprising, as it indicates the avidity with which the offspring of our foreign population seize upon the educational advantages offered them and also why it is that they are so readily and easily assimilated with the native population of the country.

One effect of the large number of institutions for primary education of the young is invariably to encourage the establishment and endowment of colleges and universities for a higher and broader academic training of students and such result has been most significant in this city.

While the public schools in their number, teaching force, pupils, etc., rank with the highest, in point of population, our higher institutions of learning place the city far in advance of any other city in the country, keeping in mind, of course, that Brooklyn, with a population of 1,743,556 is included in the statistics of New York, which has a population of 3,023,372.

The following table shows the number of colleges and universities in the cities named, with the number of students therein, the children

of school age and the number of pupils in the public, private and night schools:

From the Report of the United States Commissioner of Education for the year 1910.

	C and U	Students	Children of School Age	Pupils In		
				*Public Schools	<i>a</i> Private Schools	<i>b</i> Night Schools
New York.....	6	12,938	1,518,192 ^a	586,673	115,617	109,656
Chicago.....	6	14,450	647,612	243,471	103,255	19,988
Philadelphia.....	3	7,792	<i>c</i>	154,709	50,000	9,852
St. Louis.....	3	2,671	195,966	67,908	30,000	7,634
Boston.....	3	6,769	115,527	90,891	18,082	19,856
Baltimore.....	3	1,392	<i>c</i>	55,011	25,000	9,024
Pittsburgh.....	2	1,486	<i>c</i>	44,650	<i>c</i>	3,654
Cleveland.....	3	1,816	<i>c</i>	58,514	26,569	7,660
Buffalo.....	1	400	94,510	47,250	23,846	7,874
San Francisco.....	1	412	74,729	34,383	10,030	7,057
Detroit.....	1	299	103,249	43,052	20,079	3,938
Cincinnati.....	2	1,945	81,334	35,639	18,200	5,635
Milwaukee.....	2	1,098	115,966	37,572	24,182	1,697
New Orleans.....	3	2,541	104,338	29,095	30,000	4,635
Washington.....	7	4,290	<i>c</i>	44,627	6,000	4,274

* Average daily attendance.

a Largely estimated.

b Not in day schools.

c No data.

Unquestionably at the head of our higher institutions of learning is the University of Chicago, which was organized in 1892, and now has a corps of teachers numbering 334, with 6,681 students in attendance. The campus embraces 95 acres, which cost \$4,217,000, and contains 31 buildings, arranged on the plan of the English universities. These buildings cost approximately \$5,000,000, and several more are to be added, including the Harper Memorial Library building, which will cost \$800,000. The University has a productive fund amounting to \$15,070,903, and received in 1908 from tuition benefactions and incidental charges, \$1,899,755. The institution is co-educational, and in the vicinity of the campus are a large number of homes of well-to-do people who have come to Chicago to give their children the advantages of the education furnished by the University, while in the various departments may be found students from nearly every state in the Union, as well as from a number of foreign countries.

The Northwestern University is entitled to recognition for its work in making Chicago the educational center of the middle west. While its campus and classical departments are located two miles north of the limits of the city, its university departments are within

the municipal area. The university was chartered in 1851, and was opened for students in 1855, since which time it has become the largest and most widely known of any of the educational institutions in America under the control of the Methodist Episcopal denomination. It has 4,850 students, with a united faculty of 358 instructors. Its productive funds amount to \$3,013,616; its endowment funds, \$4,277,773, with an income of \$1,070,052. The property of the University is valued at \$9,038,640.

It is co-educational in its work. The University campus is located on the shore of Lake Michigan, having an area of about seventy-five acres. Upon it are the College of Liberal Arts; the College of Engineering; Garrett Biblical Institute; the Academy and the School of Oratory. The school of music and the women's dormitories, three in number, are situated near the campus. The medical school and the schools of law, pharmacy, dentistry and commerce are in the large University building at the corner of Lake and Dearborn streets in the city of Chicago. The University has a large gymnasium and every other requisite for a complete and prosperous educational institution.

The Armour Institute of Technology, one of the widely known scientific schools of the United States, has sixty-one instructors and 1,405 students, representing thirty states and twelve foreign countries. Its departments are mechanical, electric, civil and chemical engineering; for further protection engineering and architecture. It is essentially a college of engineering, providing courses in all branches of that and kindred sciences. Special courses are offered in evening classes, which are open to men and boys who are employed during the day. It also has six weeks' summer courses.

Lewis Institute is in the west and most populous division of the city, located at West Madison and Robey streets. It is a polytechnic college of the highest rank, teaching mechanical engineering, mechanical arts, liberal arts and domestic economy. It has approximately 2,000 students.

Loyola University is a well known school under the direction of the Roman Catholic Church. With it is connected a law school, one of philosophy and social science, a medical college, a college of pharmacy and a school of engineering.

For the student of natural history there is no institution in the world where such investigation can be carried on in a wider field or with a larger collection of subjects, than at the Field Columbian Museum in this city. This museum is an outgrowth of the World's Columbian Exposition, held in Chicago in 1893, and occupies the Fine



L. S. & M. S. Railway Terminal. Location Clark, Polk, Taylor and La Salle Streets



Michigan Central Railroad Terminal, South Water Street, Chicago

Arts building at Jackson Park, a structure which for its size and classic beauty was one of the most admired structures at the park. The building is Greek in style of architecture and covers nine acres of ground fronting the lagoon.

The institution was founded by Marshall Field, whose first donation to it was \$1,000,000, which was followed by another of \$430,000, which was augmented later by other donations amounting to \$500,000. Upon the death of Mr. Field he gave the institution a further sum of \$8,000,000 with which to erect a suitable building for the care of the exhibits, as the Fine Arts building was not erected with any idea of permanency and is fast falling into decay. When the new building is completed next year the city of Chicago has pledged \$100,000 annually for its maintenance and the carrying forward of the purposes of the founder.

The museum is divided into four distinct departments of natural history, anthropology, botany, geology and zoology, specimens in each of which have been collected from every quarter of the globe, many of them being arranged in glass cases for the convenience of sight-seers and students. Two courses of free lectures are given at the museum each year by experts in the various departments of learning covered by its exhibits.

In the departments of ethnology of North America, mineralogy of the world and botany, the museum is marvelously rich and without a rival. As to the number of specimens, it is impossible to give an estimate, as they run into the millions. The museum has a library of more than 50,000 titles, which are at the service of students and instructors from whatever country they may come, who are at all times admitted free of charge. The museum is open to sight-seers free on Saturdays and Sundays of each week, but upon other days an admission fee of 25 cents is charged.

It is hardly necessary to go into full details regarding special schools. The School of Art, at the Art Institute, is one of the most celebrated in the country. In addition to this there are six law schools, five theological seminaries, eight medical colleges, three dental schools, two schools of pharmacy, two veterinary colleges, twenty-two business colleges, besides other technical educational institutes.

Closely allied with institutions of learning, general and specific, are libraries and other facilities for gathering information.

There are in this city more than 100 libraries, of a more or less public nature, of which some sixty-five are, under various restrictions,

open to the public. Some of them are open to the public without limitation, while others may be consulted by the observance of special rules governing the use of books. These public and semi-public collections contain more than 1,463,000 bound volumes. In popularity the Public Library of the city is the most notable of all its collections. It had its origin in the donation of a large number of valuable books by H. B. M. Queen Victoria immediately following the disastrous conflagration of 1871, which has been supplemented by extensive additions made by the city. The building in which the library is housed is near the business center of the city and is universally recognized as being one of the finest and most artistic for its purposes in the country, being frequently compared by strangers with the Congressional Library building in Washington. It is a massive structure, built of blue limestone, in 1897, and is Roman classic in style of architecture, costing \$2,125,000. It contains 110,000 square feet of floor space and contains over 350,000 bound volumes and over 63,000 unbound pamphlets. It is especially rich in works on art, history, biography, travel and the sciences. Nineteen branches and 109 delivery stations of the library are very generally distributed throughout the city and persons in the residence sections can apply to these branches or distributing centers for books and have them delivered near their own doors the same day. In this way more than 775,000 volumes are circulated annually. Any resident of the city, or one residing in the suburbs but doing business in the city, can draw books free of charge. The Chicago Public Library has the largest circulation of books of any single library in the United States with one exception.

This list does not include many specific collections of books in circulating (for which a fee is charged), club, seminary, law school, traveling, private school, settlement, hospital, government department, railway and private libraries.

To the man with children to educate, from the kindergarten through any of the higher branches of study, including history, the arts, sciences or learned professions, there is no place, certainly on the American continent, where these branches are taught or studied with greater facility than in Chicago.

XVI.

Chicago—Its Plan for a New City**By CHARLES H. WACKER***Chairman of the Chicago Plan Commission*

The idea of creating a plan to govern the future growth of the city in an orderly, systematic way to make Chicago a real metropolitan city, and enable her to retain her position among the great cities of the world, was an outcome of the World's Columbian Exposition, held in Chicago in 1893. Credit for first giving publicity to this idea is due to Mr. Franklin Mac Veagh, now Secretary of the National Treasury, who in 1901 suggested it to the Commercial Club of Chicago. At almost the same time the Merchants' Club of Chicago became interested in the subject through Mr. Charles D. Norton, its president, and Mr. Frederic A. Delano. Work on the plan was formally undertaken by this club in 1903, and was well under way when the two clubs were merged in 1907 under the name of the former.

The ten objects of the Chicago Plan, in detail, are as follows:

First: To direct the future growth of our city in an orderly, symmetrical and systematic way, so that Chicago may attain a metropolitan character, and may retain her position among the great cities of the world.

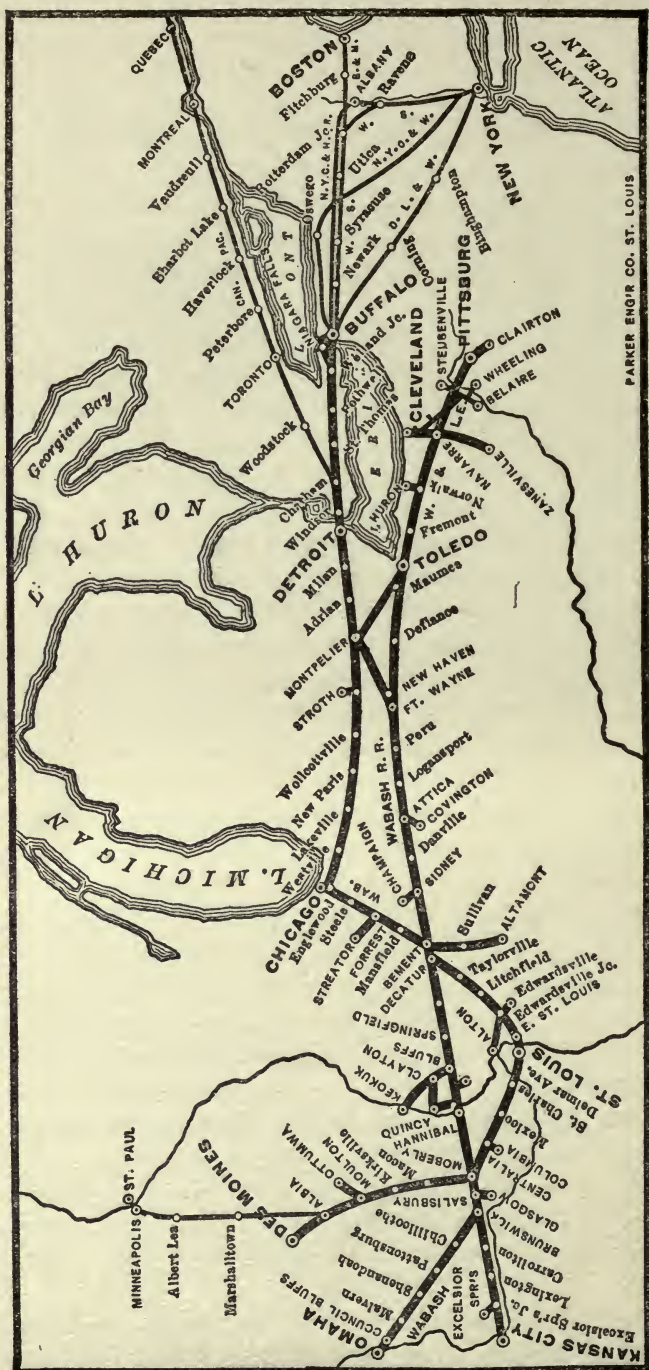
Second: To educate the people upon the importance of city planning and demonstrate to them that city planning is basic for and co-related with better conditions, both hygienic and aesthetic.

Third: To adopt a scientifically and carefully elaborated plan, which is not to be changed in its essentials. It is obvious that hygienic measures must keep pace with the increasing erudition resulting from scientific research, and that prospective growth must take cognizance of such expedient hygienic and philanthropic advantages and necessities as changing conditions may demand in the future.

Fourth: To provide a plan for the whole people, and particularly for those who cannot afford to go elsewhere in search of recreation.

Fifth: To reclaim for the people the beautiful shores of Lake Michigan, and provide more convenient and direct transportation thereto, and in this way make our city more healthful, pleasant and attractive.

Sixth: To rearrange the streets and highways where that is demanded by intolerable conditions of congestion or inconvenience.



Seventh: To provide, along proper lines, for the growth of the city, park areas, small parks, playgrounds, bathing beaches, recreation piers and boulevards.

Eighth: To capitalize our luxuries, our conveniences and our attractiveness.

Ninth: To convince the people that delay will make the execution of many of the important and now feasible features impossible, the practical impracticable, the possible unattainable, and the economical extravagant.

Tenth: To convince the people that aside from its aesthetic and hygienic value, the development of our city, symmetrically and along well-placed lines, will prove an actual commercial asset of incalculable value to every citizen, be he rich or poor, and that we cannot longer afford to grow in the present haphazard, disorderly and wasteful manner.

In 1907 the first Plan Committee of the Commercial Club was organized with Mr. Charles D. Norton as chairman and Mr. Charles H. Wacker as vice-chairman. In 1909 Mr. Norton resigned and Mr. Charles H. Wacker succeeded him as chairman, which office he in turn vacated when he received his appointment from the Mayor of Chicago as permanent chairman of the Chicago Plan Commission.

Daniel H. Burnham, world-renowned architect, took charge of the details of the plan, and assisted by Mr. Edward H. Bennett, produced all the charts, maps and drawings necessary for carrying out the remodeling and development of the city. In 1908 these, together with an explanatory narrative written by Mr. Charles Moore, corresponding member of the American Institute of Architects, were arranged in a magnificent volume published by the Commercial Club.

The central idea out of which the Chicago Plan has grown is: If Chicago is to become the greatest and most attractive city of this continent, its development and improvement should be guided along certain definite and prearranged lines, to the end that the necessary expenditures for public improvements from year to year may serve not only the purpose of the moment, but also the needs of the future. The plan is not a scheme for expending millions of dollars either now or in the near future, but it is rather a comprehensive suggestion of what may be accomplished in the course of years—it may be fifty, it may be a hundred—by spending in conformity with a well-defined plan the money which must be spent from time to time on permanent public improvements. Paris has been made the world's most beautiful city

because she has followed for more than fifty years the policy of making public improvements in conformity with a clearly defined plan. The Chicago Plan is in conflict with no other plan or project for the industrial or commercial development of Chicago.

The first constructive work of the Chicago Plan Committee is to establish several circuits of existing thoroughfares and to improve them so that traffic can move freely and directly throughout the center of the city. The first circuit is the quadrangle formed by Twelfth Street on the south, Halsted Street on the west, Chicago Avenue on the north and Michigan Avenue on the east. These four streets are destined to bear the heaviest traffic of any streets in Chicago.

Twelfth Street from Ashland Avenue to State Street is at present 66 feet wide between building lines, 39 feet wide between sidewalk curbs, and only 9 feet and 9 inches wide between the street car step and the curb. From State Street to Michigan Avenue the blocks are only fifty feet wide. The necessity for the improvement of this street lies in the fact that it is the only thoroughfare between Harrison Street and Eighteenth Street connecting the West Side with the downtown district. The actual heart of the population of the city today is a little north of the corner of Twelfth and Halsted Streets. Traffic and the growth of the city are gradually moving in a south-westerly direction. Adequate provision must be made for a suitable outlet from that district to the present business center of the city.

It is proposed to make the street 108 feet wide from Ashland Avenue to Canal Street, taking a 42-foot strip off from the lots on the south side of the street. It is to be widened to 118 feet from Canal Street to Michigan Avenue. It is not intended to boulevard the street, but to make it a clean, wide business thoroughfare, with a double, rapid transit surface street car line down the center. On November 16, 1909, the Executive Committee of the Chicago Plan Commission appointed a special Twelfth Street Committee, whose mission it was to investigate and report on the entire matter. On January 19, 1910, the Executive Committee received and adopted the report.

On the 11th of April, 1911, the City Council adopted an ordinance for widening Twelfth Street, the bridge across the river to conform to the width of the street. The Sanitary District will pay one-half the cost of the new bridge and the city will pay the other half, in accordance with the action of the City Council, which recently passed the necessary ordinance without a single negative vote. The city's half

of the cost was included in the bond issue carried at the recent election.

In accordance with an action of the City Council July 10, 1911, the chairman of the Commission submitted a report to that body on September 25th covering the Commission's ideas for the treatment of the lake shore, relating to the creation of a large additional park space along the city's water front by the utilization of Chicago's vast amount of waste and excavated material. In it is shown the folly of the city in spending \$60,000,000 in constructing the Drainage Canal for the purpose of purifying the waters of Lake Michigan and then allowing these waters to be again polluted by the dumping therein of the city's offal.

It was also shown how much could be saved in the expense of disposing of this waste material, and at the same time build land of incalculable value to the city and with little or no cost to the taxpayers. The park area of Chicago is today entirely out of proportion to the population of the city and is therefore inadequate. For health and good order there should be one acre of park space for each 100 people. Our present average for the entire city is about 780 persons to the acre, and in the congested sections there are nearly 5,000 persons to each acre of park space. Figured on a basis of density of population, Chicago today occupies the thirty-seventh place among American cities, while thirty years ago it occupied second place. Only by the development of the lake front can Chicago acquire adequate park space. If the greatly needed additional park area can so be created and practically at no cost, why should not this work be begun at once?

On July 6, 1911, the Executive Committee of the Plan Commission unanimously adopted Plan No. 3 for the completion of the "boulevard link." This provides for a two-level street from building line to building line, to extend from Randolph Street to Ohio Street. Michigan Avenue is to be widened from 66 to 134 feet, 64 feet to be taken from the east side of Michigan avenue from Randolph Street north to the river, terminating in a plaza approximately 250 feet wide. North of the river the plan provides for the widening of Pine Street to 146 feet by taking the necessary land from the west side of the street, from Chicago Avenue to the river, terminating in a plaza approximately 250 feet wide on the north side of the river.

The grade of the street from Randolph to Lake Street is to be 2.7 per cent, from Ohio to Indiana 3 per cent, and the distance between these two points is to be practically level, with a double-deck bridge

over the river. Approaches to lower deck for teaming to be 2.5 per cent south of the river and 3 per cent north of the river, instead of approximately 5 per cent as at present. For the new street the plan provides, south of the river, for an east sidewalk 25 feet wide, road 75 feet wide and west sidewalk 30 feet wide. North of the river there will be a central parkway 26 feet wide and two roadways, each 32½ feet wide, with sidewalks 25 feet wide. Stairways to be placed for access to the upper street at river abutments north and south and at Indiana, Illinois, South Water and Lake Streets. This plan was approved and submitted for ratification at a meeting held July 10, 1911, and was unanimously adopted. There was a public hearing by the Board of Local Improvements, held July 12, 1911, at which time the Board ordered an estimate to be made on Plan No. 3.

In 1911 the work of the Chicago Plan Commission, aided by the continued active support of the Commercial Club, received material advancement. The support of the Hon. Carter H. Harrison, Mayor, and the City Council, following the administration of his predecessor, established the work of the Chicago Plan Commission upon a non-partisan and non-political foundation

The City Council, under Mayor Busse's administration, created the Plan Commission and started the work in the passage of an ordinance for the widening and improvement of Twelfth Street from Ashland to Michigan Avenue.

The Harrison administration, recognizing the city's great need for an improved through east and west artery between Harrison and Eighteenth Streets, immediately took over the contemplated Twelfth Street improvement, upon which work had not been started, with a determination to carry it through successfully and in a manner satisfactory to all the people.

Thus the Plan of Chicago originated, and thus it is being carried out.

Manufacturing Zone of Chicago.

Issued by the
CIVIC-INDUSTRIAL DIVISION
of the
CHICAGO ASSOCIATION OF COMMERCE

SCALE: 6 MILES TO 1 INCH



More than \$60,000,000 is being annually expended in industrial enterprises within this manufacturing district.

The death rate of Chicago is lower than any American city having 200,000 or more inhabitants.

Being the center of the food supply of the country, the cost of living is correspondingly low.

No hills to make the transference of freight unusually burdensome.

Unlimited water and electric power at exceptionally low rates.

Longest electric subway freight railway in the world.

Rate of taxation far below the average of American cities.

Sidetrack facilities are easily and economically secured.

The manufacturing zone is large and sites are abundant.

Street car facilities are unequalled by any city of the United States.

Banking resources are larger, in proportion to population, than in any other city of the country.

Best transportation facilities of any city in the world: 40 freight handling railroads, river and canals.

Nearer to every variety of raw material than any other city in the United States.

No extremes of temperature ever cause a temporary suspension of indoor labor.

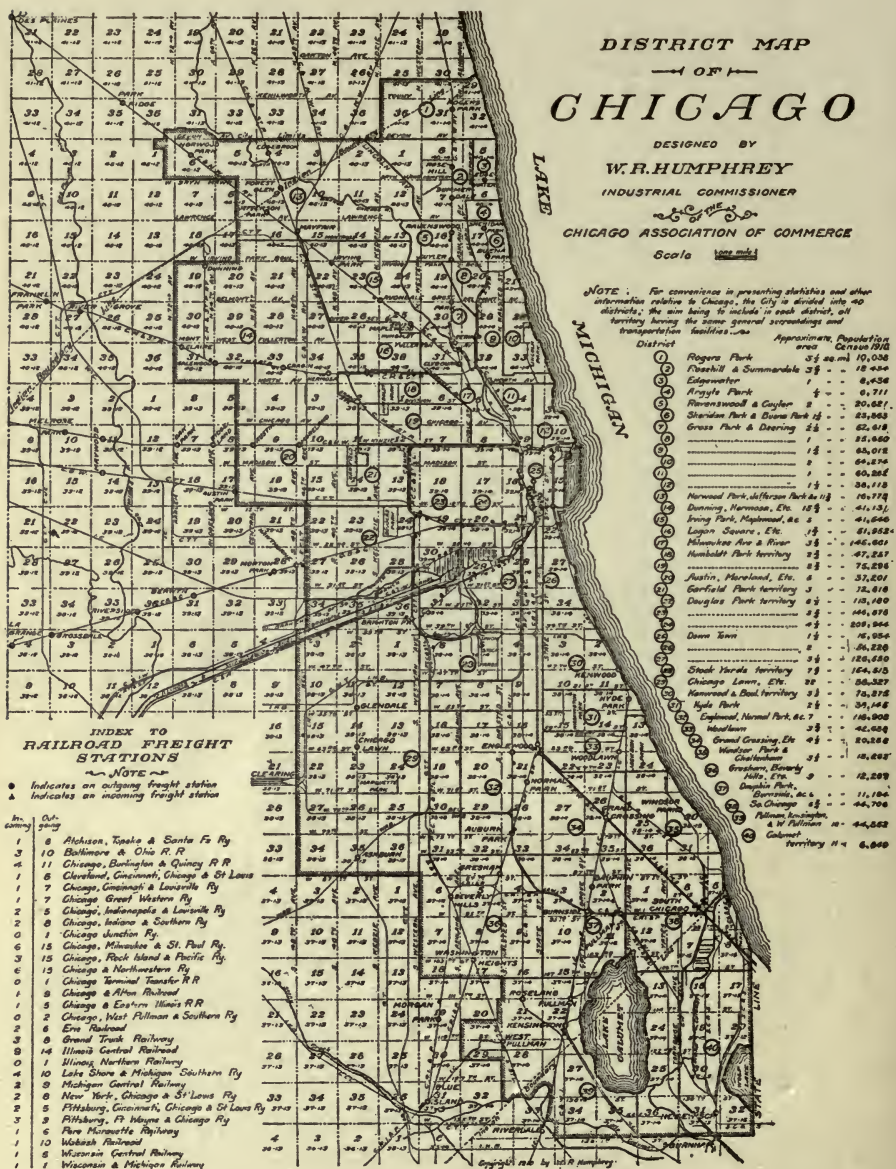
Annual value of manufactured products, \$1,250,000,000.

Center of population of the United States.

Labor abundant and conditions stable.

No floods.

For additional or special information relative to Chicago or the Manufacturing Zone of Chicago, write W. R. Humphrey, Industrial Commissioner, the Chicago Association of Commerce, 10 South La Salle St., Chicago.



A copy of the above map, size $15\frac{1}{2} \times 12$ inches, may be secured, free of charge, on application to the Chicago Association of Commerce, 10 South La Salle Street, Chicago.

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